

CITY OF PERTH AMBOY,
A Municipal Corporation
of the State of New Jersey,

Plaintiff,

vs.

MADISON INDUSTRIES, INC., et al.

Defendants.

SUPERIOR COURT OF NEW JERSEY
LAW DIVISION: MIDDLESEX COUNTY

DOCKET NOs. C-4474-76 and L-28115-76
(Consolidated)

SPECIAL ENVIRONMENTAL CASE

STATE OF NEW JERSEY,
DEPARTMENT OF
ENVIRONMENTAL PROTECTION,

Plaintiff,

vs.

CHEMICAL & POLLUTION
SCIENCES, INC., et al. ,

Defendants.

Civil Action

APPENDIX OF PLAINTIFF CITY OF PERTH AMBOY
IN SUPPORT OF ORDER TO SHOW CAUSE

Joseph J. Maraziti, Jr., Esq.
Of Counsel

Mark K. Dowd, Esq.
On the Brief

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TABLE OF APPENDICES

1. 1988 Order Amending Judgment of June 14, 1983, City of Perth Amboy v. Madison Industries, et al.; State of New Jersey, Department of Environmental Protection v. Chemical & Pollution Sciences, Inc., et al., Superior Court of New Jersey, Middlesex County, Law Division, Docket No. L-2815-76, Chancery Division, Docket No. C-4474-76 (Consolidated).
2. Decision, Chancery Division, dated July 31, 1981, Judge David D. Furman, J.S.C., City of Perth Amboy v. Madison Industries, et al.; State of New Jersey, Department of Environmental Protection v. Chemical & Pollution Sciences, Inc., et al., Superior Court of New Jersey, Middlesex County, Law Division, Docket No. L-2815-76, Chancery Division, Docket No. C-4474-76 (Consolidated).
3. Exerpt from Brief of Respondent Cross-Appellant, New Jersey Department of Environmental Protection, dated August 27, 1982, City of Perth Amboy v. Madison Industries, et al.; State of New Jersey, Department of Environmental Protection v. Chemical & Pollution Sciences, Inc., et al., Appellate Division, Superior Court of New Jersey, Docket No. A-1127-81T3/A-1276-81T3 (Consolidated).
4. Final Order and Judgment, dated October 16, 1981, City of Perth Amboy v. Madison Industries, et al.; State of New Jersey, Department of Environmental Protection v. Chemical & Pollution Sciences, Inc., et al., Superior Court of New Jersey, Middlesex County, Law Division, Docket No. L-2815-76, Chancery Division, Docket No. C-4474-76 (Consolidated).
5. Order Denying C.P.S.' Motion to Remand, dated March 11, 1982, William G. Bischoff, P.J.A.D., City of Perth Amboy v. Madison Industries, et al.; State of New Jersey, Department of Environmental Protection v. Chemical & Pollution Sciences, Inc., et al., Appellate Division, Superior Court of New Jersey, Docket No. A-1127-81T3/A-1276-81T3 (Consolidated).
6. Order Denying C.P.S.' Motion for Leave of Supplement the Record, dated June 22, 1982, William G. Bischoff, P.J.A.D., City of Perth Amboy v. Madison Industries, et al.; State City of Perth Amboy vs. Madison of New Jersey, Department of Environmental Protection v. Chemical & Sciences, Inc., et al., Appellate Division, Superior Court of New Jersey, No. A-1127-81T3/A-1276-81T3 (Consolidated).

TABLE OF APPENDICES (Cont.)

7. Decision, Appellate Division, dated April 21, 1983, Judges Bischoff, Coleman and Gaulkin, City of Perth Amboy v. Madison Industries, et al.; State of New Jersey, Department of Environmental Protection v. Chemical & Pollution Sciences, Inc., et al., Appellate Division, Superior Court of New Jersey, Docket No. A-1127-81T3/A-1276-81T3 (Consolidated).
8. Final Order and Judgment Amended to Conform with the Decision of Appellate Division, dated June 14, 1983, David D. Furman, J.S.C., City of Perth Amboy v. Madison Industries, et al.; State of New Jersey, Department of Environmental Protection v. Chemical & Pollution Sciences, Inc., et al., Superior Court of New Jersey, Middlesex County, Law Division, Docket No. L-2815-76, Chancery Division, Docket No. C-4474-76 (Consolidated).
9. Letter Order Requiring Borings, dated December 3, 1985, John E. Keefe, J.S.C., City of Perth Amboy v. Madison Industries, et al.; State of New Jersey, Department of Environmental Protection v. Chemical & Pollution Sciences, Inc., et al., Superior Court of New Jersey, Middlesex County, Law Division, Docket No. L-2815-76, Chancery Division, Docket No. C-4474-76 (Consolidated).

ORIGINAL FILED WITH CLERK IN TRENTON

April 27, 1988

W. CARY EDWARDS
Attorney General of New Jersey
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Richard J. Hughes Justice Complex
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By: Ronald P. Heksch,
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SUPERIOR COURT OF NEW JERSEY
LAW DIVISION - MIDDLESEX COUNTY
DOCKET NO. C-4474-76
L-28115-76
(Consolidated)

CITY OF PERTH AMBOY, a municipal Corporation,)

Plaintiff,)

v.)

MADISON INDUSTRIES, INC.,)
et al.,)

Defendants.)

STATE OF NEW JERSEY, DEPARTMENT OF ENVIRONMENTAL PROTECTION,)

Plaintiff,)

v.)

CHEMICAL & POLLUTION SCIENCES, INC., et al.,)

Defendant.)

Civil Action

ORDER AMENDING JUDGMENT
OF JUNE 14, 1983
CONSENTED TO BY ARNET REALTY

This action was brought on for trial before the Court sitting without a jury, David D. Furman, J.S.C., presiding, commencing on June 2, 1978, May 29, 1979 and June 15, 1981, by plaintiffs, State of New Jersey, Department of Environmental Protection ("NJDEP") by the Attorney General of the State of New Jersey, Deputy Attorneys General Steven R. Gray and Rebecca Fields appearing at the trial, and by the City of Perth Amboy by Albert Seaman, Esq. and George Boyd, Esq., and in the presence of defendants, CPS Chemical Co. ("CPS") by its then counsel, Lowenstein, Sandler, Brochin, Kohl, Fisher & Boylan and in the presence of defendant Madison Industries, Inc. ("Madison"), by its then counsel, Lynch, Mannion, Martin, Benitz, & Lynch; and the Court at that trial entered Judgment in favor of the plaintiffs and against the defendants, all as more particularly described in the Court's Final Judgment of October 10, 1981, and all parties appealed that Judgment to the Superior Court of New Jersey, Appellate Division, and the Appellate Division rendered its written decision on April 21, 1983, affirming in part and modifying in part the Trial Court's Judgment and remanding the matter to the Trial Court for the entry of an appropriate Amended Judgment; and such Amended Judgment, entitled "Final Order and Judgment amended to conform with the decision of the Appellate Division" was entered on June 14, 1983 by the Honorable Richard S. Cohen; and the defendants thereafter unsuccessfully sought certification to the New Jersey Supreme Court.

Thereafter, the defendants CPS (Schwartz, Tobia & Stanziale, by Theodore A. Schwartz, Esq.), and Madison (Sterns, Herbert, Weinroth and Petrino, P.A., by William J. Bigham, Esq.),

at their own expense retained consultants and undertook the development of an alternative ground water recovery program which could more effectively address the ground water concerns which were the subject of the June 14, 1983 Judgment mentioned above, and which program would be implemented by the defendants at the CPS/Madison site; and NJDEP considered carefully that alternative recovery program and agreed that it could more effectively abate such contamination; and NJDEP and the defendants thereafter engaged in lengthy and protracted settlement negotiations in an effort to reach agreement on various particulars to that alternative remedial program; and said parties having agreed to utilize the alternative remedial program, and further, agreeing that it is mutually beneficial to have the defendants implement the alternative remedial program and assume responsibility for same instead of NJDEP, as provided in previous Orders of this Court, and NJDEP having made a motion to amend the Judgment of June 14, 1983 to implement the alternative remedial program set forth hereafter, which motion was opposed by City of Perth Amboy, and the matter being the subject of an evidentiary hearing on January 26, 1988 and January 27, 1988 before the Honorable John E. Keefe and the court having rendered an oral decision from the bench on January 27, 1988 finding that the remedial measures mandated by the June 14, 1983 Judgment were environmentally unsound and thereby granting NJDEP's motion to amend the Judgment of June 14, 1983.

IT IS on this 27th day of April, 1988;
ORDERED as follows:

1. CPS and Madison shall install and operate a ground water recovery system as conceptually proposed in Wehran Engineer-

ing's Addendum Number Two to the "Recommended Remedial Program for Abatement of Ground Water Contamination of the Old Bridge Sand Aquifer in the Vicinity of CPS and Madison Industries" dated March 28, 1984, attached hereto as Appendix A. This proposed plan includes a crescent-shaped slurry wall keyed into the South Amboy Fire Clay approximately one-third of the distance into Prickett's Pond (Based on borings, the parties estimate that the depth of the South Amboy Fire Clay is 30' to 70') and three (3) recovery wells to control and capture the contaminated ground water plume.

2 CPS and Madison shall relocate Prickett's Brook to the south of the CPS and Madison facilities as conceptually proposed in Converse Consultants Report "Recommended Site Recovery Program, Madison Industries, Incorporated," dated May 27, 1983, attached hereto as Appendix B.

3. CPS and Madison shall discharge the pumped ground water to the Middlesex County Utilities Authority ("MCUA") treatment plant in Sayreville through the Old Bridge Township Sewerage Authority ("OBTSA") collection system. CPS and Madison shall pay all applicable connection and user charges assessed by the OBTSA and/or the MCUA associated with the discharge. A direct discharge of any or all of the wastewaters to the MCUA will be allowable provided appropriate permits and approvals are obtained from the MCUA and the NJDEP.

4. (a) CPS and Madison shall discharge the aforesaid pumped ground water in accordance with all applicable discharge requirements of the MCUA and the OBTSA.

(b) All the ground water pumped from the recovery well designated T-1 and process waste waters of Madison shall be

pretreated by Madison for zinc. A pretreatment program which will achieve 80% removal of zinc from the waste streams detailed above shall be implemented in accordance with Appendix D-1. Removal shall be calculated as $\frac{I-E}{I}$ where, I = influent concentration, and E = effluent concentrations. If Madison should cease to operate its facilities it can, as an alternative to the 80% removal pretreatment program described here, pretreat to five parts per million at T-1 only. Nothing in this paragraph shall be deemed to relieve Madison of any legal obligations it may have with respect to compliance with the Inorganic Chemical Manufacturing Point Source Category, zinc chloride subcategory, 40 CFR. 415.674. CPS shall not have any responsibility whatsoever for the treatment or processing of any process wastewaters of Madison, and further, this Order shall not be construed, interpreted, or impose any liability whatsoever, including but not limited to joint and several liability, on CPS for any handling, discharging and/or processing (including any pretreatment) of Madison's process wastewaters.

(c) Any plans and specifications for the construction of the discharge system and/or pretreatment system which are required by applicable rules of the MCUA to be reviewed and approved by said agency shall be submitted to the MCUA and OBTSa prior to any construction.

(d) As part of the discharge system as aforesaid, a secured metering and sampling vault shall be provided at locations to be established and approved by the MCUA and OBTSa. The MCUA, OBTSa and NJDEP shall retain control and access to the metering and sampling stations at all times.

5. (a) The ground water discharge as described above shall be monitored in accordance with applicable rules and regulations of the MCUA. A sampling protocol shall be established through the NJPDES/SIU Permit Program regarding the monitoring of the discharge.

(b) Should significant deviations occur between sampling data obtained by the MCUA and CPS and Madison, further testing may be required by the MCUA and/or NJDEP. In the event that disagreement arises between the MCUA and CPS and Madison regarding the need for further testing, same shall be resolved by NJDEP. Said further testing shall be conducted at the expense of CPS and Madison at an independent laboratory approved by NJDEP.

(c) It is recognized by the parties hereto that the MCUA, due to restrictions that may be placed upon its effluent discharge or sludge disposal activities, may require revisions to its system-wide pretreatment program to further define discharge limitations. In such event, the parties recognize that revised processing or treatment may be required of all indirect users of the MCUA system.

(d) This Order shall not abridge or affect any rights that CPS and/or Madison may have in regard to said revisions.

6. (a) The crescent-shaped slurry wall referenced in paragraph 1 is intended to act as a barrier to the downstream migration of the contaminated sediments in the east end of Prickett's Pond and to act as a barrier to induced recharge from the down gradient side of the recovery wells.

(b) Contaminated sediments and/or pond water in Prickett's Pond do not require extraction or removal at this time, but CPS and Madison may, after the ground water recovery system is operational and within a reasonable time thereafter, reevaluate, in a manner approved by the NJDEP, the need for sediment removal.

7. The piles of zinc, lead and cadmium, or portions thereof, referred to in the Judgment of June 14, 1983 have been removed or stored in a permanent enclosed structure by Madison. The storage of zinc, lead and cadmium at the Madison site shall be done in a manner which prevents zinc, lead and cadmium from entering the waters of the State and further, which prevents zinc, lead and cadmium from being placed in an area where it might flow or drain into said waters.

8. (a) CPS and Madison shall initiate a program acceptable to NJDEP at the start-up of the ground water recovery system to monitor and evaluate the performance of said system. This program shall include the sampling and measurement of water levels in 30 monitoring wells, the sampling of three recovery wells, and the measurement of water levels in eight piezometers. The locations of these wells and piezometers are depicted on Appendix C.

(b) CPS and Madison shall measure water levels from said wells and piezometers according to the following schedule: within 30 days prior to system start-up and 24 hours, 48 hours, 1 week, 2 weeks, 3 weeks, 4 weeks, 8 weeks, 12 weeks, and quarterly after system start-up in conjunction with the sampling frequency set forth in paragraph 8(c) below.

(c) CPS and Madison shall collect samples from the three pumping wells and 30 monitoring wells one month before system start-up, one month after, three months later, and quarterly thereafter. Said samples shall be collected according to NJDEP procedures and analyzed by a New Jersey State certified laboratory approved by NJDEP for zinc, lead, cadmium, copper, and total volatile organic pollutants.

(d) Within six (6) weeks after each sampling event period, CPS and Madison shall submit to NJDEP a report of the sampling results and include a water level contour map for the entire recovery system.

(e) CPS and Madison may propose modifications to this performance monitoring program based on accumulated data for a reasonable period of time before and after system start-up for NJDEP approval. Under no circumstances will CPS or Madison modify and/or terminate the performance monitoring program without prior written authorization from NJDEP.

(f) If after sixty (60) days of start-up, NJDEP concludes that water level and ground water quality data reveal that the ground water recovery system is not controlling and capturing the entire contaminant plume as conceptually predicted in Appendix A, CPS and Madison shall, within thirty (30) days of being advised of this conclusion by NJDEP, propose modifications to the ground water recovery system so as to address NJDEP's concerns. Said modifications may include, but not be limited to, increased pumping, additional pumping wells and/or the extension of the cut-off slurry wall. Upon approval by NJDEP, CPS and Madison shall

implement said modifications forthwith. In the event that the modifications proposed by CPS and Madison are unacceptable to NJDEP, NJDEP shall advise CPS and Madison accordingly. Upon receipt of NJDEP's response, CPS and Madison shall immediately initiate the actions necessary to address NJDEP's concerns. Under no circumstances will a ground water recovery system that does not control and capture the entire contaminant plume be acceptable to NJDEP. It is understood that if the recovery system implemented pursuant to this Order is not, even after modification, controlling and capturing the entire contaminant plume as conceptually predicted in Appendix A, CPS and Madison shall remain liable and responsible for containing and controlling the entire contaminant plume which is the subject matter of this litigation.

(g) The operation of the recovery system will be terminated when four (4) consecutive quarterly samplings, verified by NJDEP, reveal that the ground water quality is equal to or below New Jersey ground water quality standards or background levels, whichever is higher. In reaching a determination as to the achievement of the aforementioned cleanup standards CPS and Madison shall not be responsible for the maximum background levels which are entering onto or influencing the site. The cleanup standards referred to herein are the Safe Drinking Water Act levels for heavy metals (zinc, lead and cadmium) and the guideline of 100 parts per billion (ppb) for total volatile organics. As standards are promulgated for individual and total volatile organics prior to termination as aforesaid, they will become the new performance standards for termination.

(h) CPS or Madison may petition NJDEP at any time for modification and/or termination of the ground water recovery system based upon accumulated data and the demonstration of the absence of public health and environmental consequences and at such time as it can be demonstrated to the satisfaction of NJDEP that further recovery of the ground water will not significantly further improve the ground water quality. However, under no circumstances will CPS or Madison modify and/or terminate the recovery system under this paragraph without prior written authorization from NJDEP.

(i) Upon termination of the ground water recovery system, CPS and Madison shall implement a two (2) year post-recovery monitoring plan approved by NJDEP which will include quarterly sampling from all 33 wells. If at the end of this two year monitoring period all ground water samples remain within the standards referenced in paragraph 8(g), then all monitoring will terminate. If contamination levels rise above the standards referenced in paragraph 8(g) during these two years in any well for two consecutive monitoring sampling events, then CPS and Madison shall reinitiate or appropriately modify the ground water recovery system and reinitiate the performance monitoring program except as provided by paragraph 8(h) above.

9. (a) CPS and Madison shall apply and obtain all required permits including, but not limited to, stream encroachment, NJPDES/SIU, sewer extension and water diversion permits specific to the project prior to the implementation of any aspect of this Order Amending Judgment. CPS and Madison shall file com-

plete permit applications for all permits required to implement their obligations herein within a reasonable time after the execution of this Order Amending Judgment.

(b) The submission of final design, plans, and specifications, for each aspect of this Order shall be in accordance with Appendices D-1 and D-2. Time periods for completion of work herein shall run from date of receipt of effective permits from NJDEP, MCOA, OBTSR, and any other agencies from which permits are required.

(c) CPS and Madison shall include the following requirements in the designs of the ground water recovery system:

(1) All recovery wells will be designed and constructed so that they can produce approximately twice the proposed pumpages in Appendix A.

(2) Continuous water level recorders will be installed in four (4) of the piezometers adjacent to the slurry wall and in the three recovery wells or in immediately adjacent piezometers and placed in a locked, secured compartment.

(3) All upgradient monitoring wells and selected down gradient wells will be made tamper proof and include double locks for which NJDEP has the only key to one lock.

(4) All monitoring wells and piezometers (except those described in paragraph (c)(3) above) shall contain locking caps.

(5) An extra 300 gpm well pump will be kept on hand at all times in case of pump failure.

(6) An alarm system will be installed for all recovery pumping wells to alert of pump failure.

(7) NJDEP will have access to the CPS and Madison sites 24 hours a day. During regular working hours, such access shall be upon request without advance notice. During other hours, CPS and/or Madison shall be given reasonable advance notice.

10. (a) CPS and Madison shall provide funds, as described in (b) following, for an NJDEP appointed consultant through payments to be made to an interest bearing escrow account controlled by NJDEP. The appointment of a consultant shall be made by CPS and Madison from five (5) consultants proposed by NJDEP, or as otherwise agreed by CPS, Madison and NJDEP. Said consultant will independently evaluate the performance of the ground water recovery system from start-up and will continue its independent evaluation until NJDEP determines that said consultant's evaluation is no longer necessary.

(b) The amount of funds to be provided by CPS and Madison to NJDEP for such independent consultant shall be strictly limited in accordance with the terms of this paragraph. CPS and Madison shall provide to NJDEP, within ten (10) days of receipt of all permits required for construction of the remedial program referenced herein, \$40,000 for payment by NJDEP to the consultant during the first year following the execution of this Order. On each anniversary of the date of payment of the \$40,000 in the first year, the following sums shall be paid by Madison and CPS at the following times:

- (i) at the 1st anniversary (during 1989) -- \$25,000
- (ii) at the 2nd anniversary (during 1990) -- \$25,000
- (iii) at the 3rd anniversary (during 1991) -- \$10,000
- (iv) at the 4th anniversary (during 1992) -- \$10,000
- (v) at the 5th anniversary (during 1993) -- \$10,000
- (vi) at the 6th anniversary (during 1994) -- \$10,000
- (vii) at the 7th anniversary (during 1995) -- \$10,000
- (viii) at the 8th anniversary (during 1996) -- \$10,000
- (ix) at the 9th anniversary (during 1997) -- \$10,000
- (x) at the 10th anniversary (during 1998) -- \$10,000
- (xi) at the 11th anniversary (during 1999) -- \$10,000
- (xii) at the 12th anniversary (during 2000) -- \$10,000
- (xiii) at the 13th anniversary (during 2001) -- \$10,000

(c) If in any year NJDEP fails to actually expend the annual allotment for that year, it may expend that annual allotment on such consultant in any succeeding year if it is required; however, under no circumstances may NJDEP utilize allotments from future years. Further NJDEP may only draw down such funds as are actually required for the payment of the consultant; these funds may not be used for any other purpose. Any monies remaining in the escrow account at such time as NJDEP determines that the consultant's evaluation is no longer necessary (as described in (a) above) shall be returned to CPS and Madison, in equal shares.

11. (a) Within 120 days of the execution of this Order by the court CPS and Madison shall provide NJDEP with a performance bond in the amount of \$5 million to secure performance of their

obligations under this Order. The performance bond shall be in a form substantially similar to Appendix E. The performance bond shall be for a period of not less than five years. In the event that the hydraulic performance of the recovery system referenced herein is not performing as described in the Wehran Engineering Addendum Number Two, attached as Appendix A, within 90 days prior to the expiration of the aforementioned performance bond, the same shall constitute a material breach of this Order and NJDEP shall have a right to assert a claim against the balance of the performance bond. In addition, in the event of that CPS and Madison fail to perform any of their material obligations under this Order, NJDEP may assert a claim for payment of said performance bond; provided, however, that before a claim can be made, NJDEP shall notify CPS and Madison and the issuing institution in writing of the obligation(s) they have failed to perform, and CPS and Madison shall have a reasonable time, not less than 15 nor more than 20 calendar days, to cure such failure.

(b) It is estimated that the costs associated with the said ground water recovery system are approximately \$2 million. CPS and Madison shall submit a detailed cost estimate for construction of the ground water recovery system within 90 days of the date of this Order. As the various items of work called for in the ground water abatement program are completed and certified to by CPS/Madison's consulting engineers and such certifications are presented to NJDEP the amount of the performance bond shall be reduced to reflect said work completion. The aforesaid certifications shall be submitted in writing to NJDEP detailing what has

been accomplished and requesting NJDEP to set forth any objection it may have in writing within 60 days of receipt of said certifications. If the Department, within the 60-day period, makes no objection in writing, the work which is the subject matter of the certifications shall be deemed to have been completed.

(c) The amount of the performance bond shall not be reduced below \$3 million until such time as it is established to NJDEP's satisfaction that the hydraulic performance of the ground water abatement plan system is performing as described in the Wehran Engineering Addendum Number Two attached as Appendix A.

(d) When the hydraulic performance of the ground water recovery system is performing as described in the Wehran Engineering Addendum Number Two, attached as Appendix A, the bond referenced in paragraphs 11(a), (b) and (c) shall be terminated and in its place a bond in the amount of \$1 million shall be posted to secure operation and maintenance of the ground water recovery system. Said bond shall be in a form substantially similar to Appendix F. Such performance bond shall be for a period of not less than five (5) years. Should CPS and/or Madison and/or NJDEP conclude, by reference to actual and/or anticipated operation and maintenance costs and the projected period of operation of the system, that the \$1 million performance bond referenced herein is either excessive or insufficient, they, or any of them, may apply to the court for an adjustment.

(e) The bond references in this paragraph shall be issued by a company approved in advance by NJDEP.

(f) When the ground water recovery system meets the operation and maintenance provisions of paragraph 8(g) or (h), the performance bond referenced herein shall be terminated.

12. CPS and Madison shall each pay to NJDEP, within twenty (20) days following the effective date of this Order, the sum of \$26,620.

13. Arnet Realty Company ("Arnet"), a New Jersey partnership, is the owner of the land on which the Madison operation exists, and is also the owner of the land beyond and to the south of Madison's leased property, on which the stream relocation will take place. Arnet consents to the entry of this Order for the limited purpose of consenting to the undertaking of these remedial measures on its property in consideration of payment to be made by CPS and Madison.

14. This Order Amending Judgment of June 14, 1983 supercedes the Final Order and Judgment of the trial court entered in this matter on October 16, 1981, and the "Final Order and Judgment amended to conform with the decision of the Appellate Division" entered on June 14, 1983 except to the extent that the Appellate Division in its decision of April 21, 1983, and the June 14, 1983 Judgement establish CPS and Madison jointly and severally liable and further, this Order shall not affect in any way the provisions of paragraphs 8 and 9 of the June 14, 1983 Judgment, which paragraphs shall remain in full force and effect and be unaffected by this Order.

15. If any event occurs which purportedly causes or may cause delays in the achievement of any provision of this Order,

CPS/Madison shall notify NJDEP in writing within ten (10) business days of the delay or anticipated delay, as appropriate, describing the anticipated length, precise cause or causes, measures taken or to be taken, and the time required to minimize the delay. CPS/Madison shall adopt all reasonable necessary measures to prevent or minimize delay. Failure by CPS/Madison to comply substantially with the notice requirements of this paragraph shall render this force majeure provision void and of no effect as to the particular incident involved. If the delay or anticipated delay has been or will be caused by fire, flood, riot, strike, or other circumstances alleged to be beyond the control of CPS/Madison, then the time for performance hereunder shall be extended, subject to the approval of NJDEP, no longer than the delay resulting from such circumstances. However, if the events causing such delay are not beyond the control of CPS/Madison, failure to comply with the provisions of this Order shall not be excused as herein provided and shall constitute a breach of the Order's requirements. The burden of proving that any delay is caused by circumstances beyond the control of CPS/Madison, and the length of such delay attributable to those circumstances shall rest with CPS/Madison.

16. All notices, requests, demands and other communications provided for by this Order shall be in writing and shall be deemed to have been given at the time when mailed at any general or branch United States Post Office, enclosed in a registered or certified postpaid envelope and addressed as follows:

To NJDEP

Melinda Dower, Section Chief
Bureau of Case Management
401 East State St.
Trenton, NJ 08625

with a copy to:

Ronald P. Heksch, Deputy Attorney
General
Hughes Justice Complex, CN-112
Trenton, New Jersey 08625

To CPS

Mr. Philip Meisel
CPS Chemical Company, Inc.
P.O. Box 162
Old Water Works Road
Old Bridge, New Jersey 08857

with a copy to:

Theodore A. Schwartz, Esq.
Schwartz, Tobia and Stanziale
22 Crestmont Road
Montclair, New Jersey 07042

To Madison

Mr. Hyman Bzura
Madison Industries, Inc.
P.O. Box 175
Old Water Works Road
Old Bridge, New Jersey 08857

with a copy to

William J. Bigham, Esq.
Sterns, Herbert & Weinroth, P.A.
P.O. Box 1298
186 West State Street
Trenton, New Jersey 08607

To Arnet

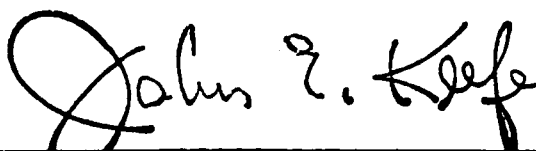
Arnet Realty
c/o Mr. Arnold Asman
111 Great Neck Road
Great Neck, New York 11021

with copies to

Arnet Realty
c/o Mrs. Nettie Bzura
38 Crest Drive
South Orange, New Jersey 07079

Smith, Stratton, Wise,
Heher & Brennan
One Palmer Square
P.O. Box 1154
Princeton, New Jersey 08542

provided, however, that notice of change of address shall be effective only upon receipt.



John E. Keefe, J.S.C.

Smith, Stratton, Wise,
Heher & Brennan
Attorneys for Arnet Realty Co.

By: 

ADDENDUM NUMBER TWO
TO
RECOMMENDED REMEDIAL PROGRAM FOR ABATEMENT OF
GROUND-WATER CONTAMINATION OF THE OLD BRIDGE SAND AQUIFER
IN THE VICINITY OF CPS AND MADISON INDUSTRIES
OLD BRIDGE TOWNSHIP, MIDDLESEX COUNTY, NEW JERSEY

Prepared for
CPS CHEMICAL COMPANY
Old Water Works Road
Old Bridge, New Jersey 08857

Prepared by
WEHRAN ENGINEERING CORPORATION
666 East Main Street
Middletown, New York 10940

We Project No. 02362217

March 28, 1984

1.0 INTRODUCTION

In May, 1983 Wehran Engineering submitted its original report entitled "Recommended Remedial Program for Abatement of Ground-Water Contamination of the Old Bridge Sand Aquifer in the vicinity of CPS and Madison Industries, Old Bridge Township, Middlesex County, New Jersey" to the NJDEP. The recommended remedial plan consisted of a cut-off wall and single recovery well pumping 300 gpm in the vicinity of Pricketts Pond. At the request of the NJDEP, an addendum dated June 21, 1983, was prepared which evaluated the impact of relocating Pricketts Brook and two ground water recovery scenarios. The first scenario (program "A") consisted of the Pricketts Pond well at 300 gpm and existing well T-1 at 150 gpm for a total withdrawal of 450 gpm. Program "B" consisted of program "A" with two additional wells, WCC-6 and M-3 pumping at 125 gpm each for a total withdrawal of 700 gpm.

In accordance with the most recent request of the NJDEP a third ground-water recovery scenario has been evaluated and is presented herein (Addendum Number Two). The plan consists of the Pricketts Pond well pumping 300 gpm and two additional wells, T-1 and T-2, each pumping 50 gpm for a total withdrawal of 400 gpm.

2.0 RESULTS

A ground-water computer simulation was conducted to evaluate the aquifer response to pumping the three recovery wells shown on figure 1. The model type, procedures, grid, boundary conditions, and assumptions used were identical to those used in the original model and will not be repeated herein. It has also been assumed that Pricketts Brook has been relocated to the south such that its influence upon the recovery system is negligible. Computed water table elevations are dependent, in part, upon starting conditions and will vary with natural seasonal fluctuations. Of importance are not absolute elevations but rather relative changes in elevations due to ground water withdrawal.

The computed ground-water elevations (heads) were contoured and superimposed

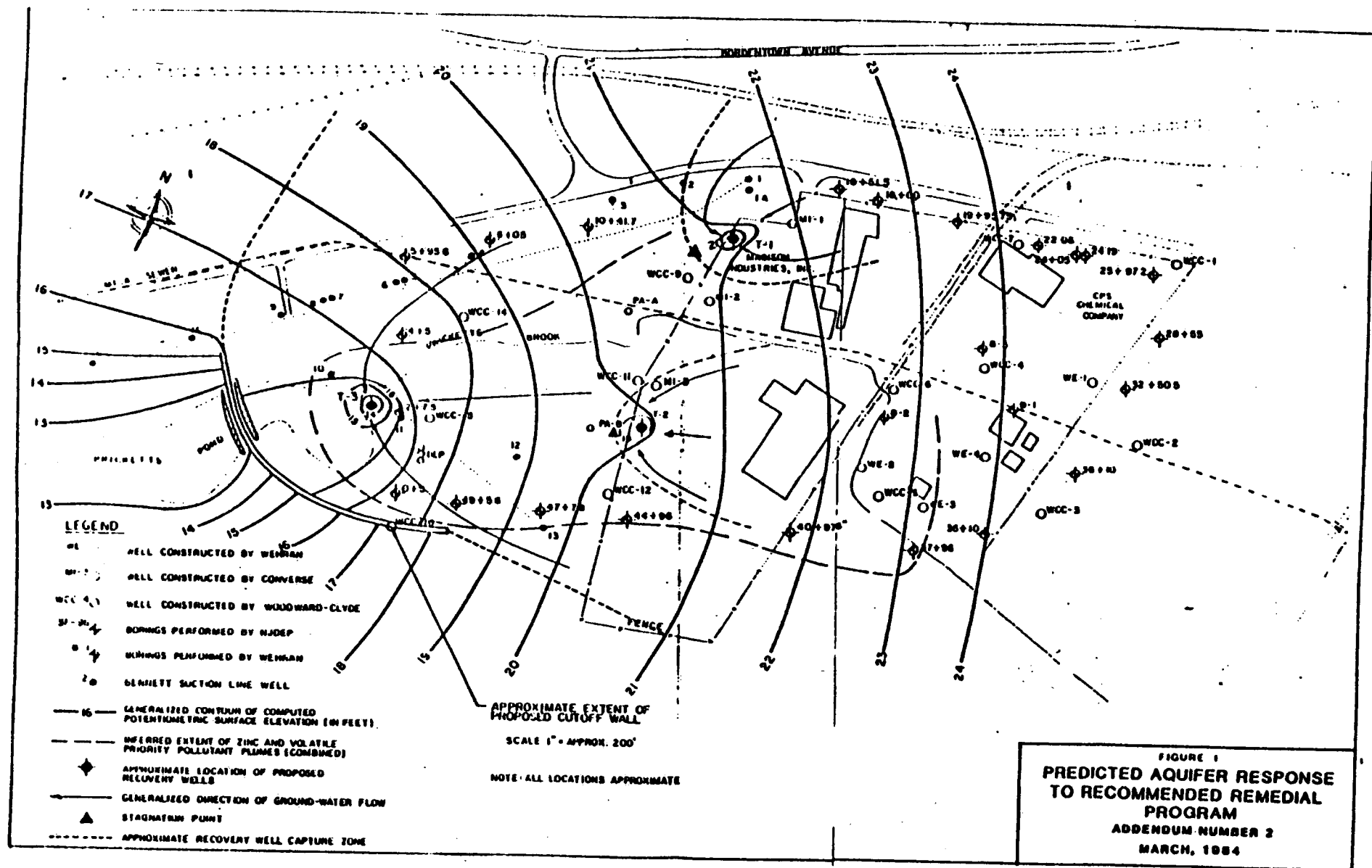
over the inferred aerial extent of the combined zinc and volatile organic plumes as determined in March, 1982. Computed pumping heads in wells T-1, T-2 and T-3 are 20.57, 20.87 and 10.98, respectively. The direction of ground-water flow as illustrated by the arrows, indicates full capture of the plume. Individual capture zones for each well are depicted by the dashed lines on figure 1. The maximum "drawback" distance for wells T-1 & T-2 is determined by the location of the stagnation point. Upgradient wells T-1 and T-2 would serve to hasten the recovery of the more highly contaminated portions of the plume while T-3 would capture of all flows paths originating within the plume. In addition, T-3 would provide rapid withdrawal of contaminants originating from unexcavated pond sediments east of the cut-off wall.

The approximate length of time necessary for a particle of water originating within the plume to reach a recovery well can be calculated using the seepage velocity equation ($V_s = Ki/Ne$) and the length of the flow path. Because of the placement of the wells, two calculations were made; one for T-3 and one for T-1 & T-2. If the permeability (K) is assumed to be 1,150 gpd/ft², the effective porosity (Ne) to be 0.40, and the hydraulic gradient (i) to be variable along the flow path, then the maximum travel time to reach T-3 and T-1 & T-2 is 3.0 and 1.5 years, respectively.

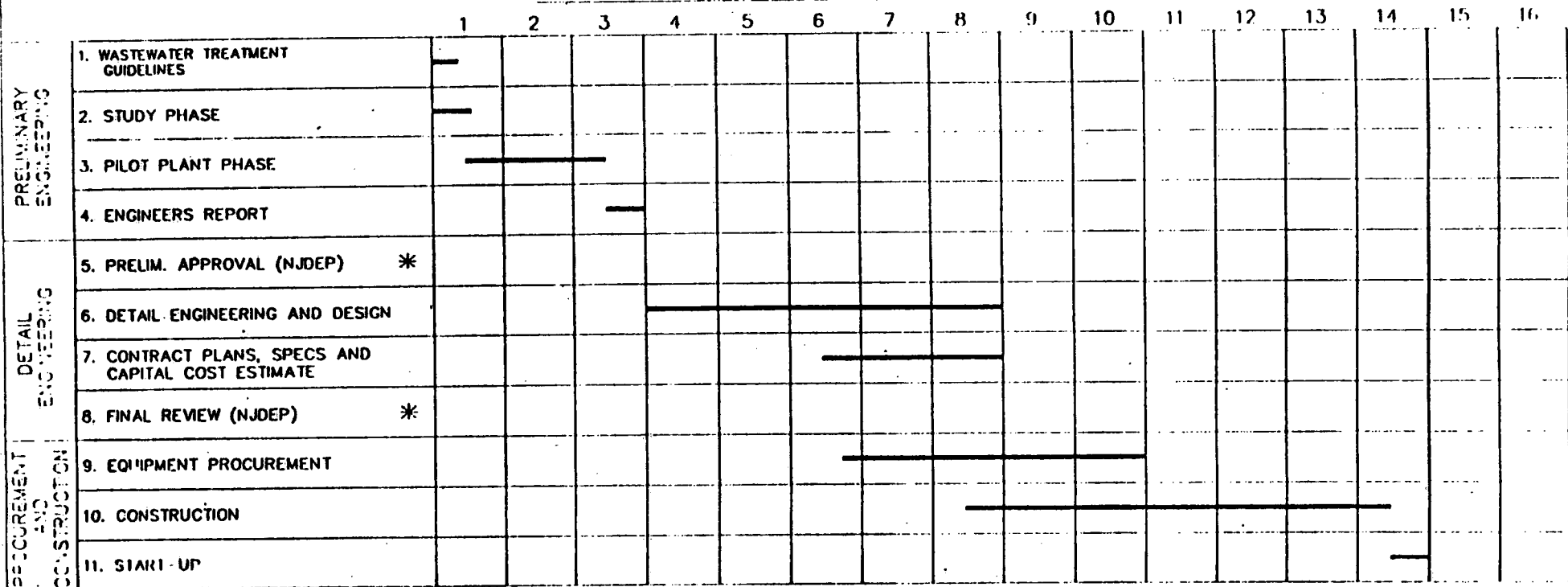
These estimates represent one pore volume exchange. However due to retardation of contaminants within the aquifer, actual contaminant travel time may be substantially slower. An evaluation of the retardation factor (original report, section 6.2) indicates that approximately four pore volume exchanges would be necessary to purge the aquifer. Actual expected contaminant travel times, therefore, become 12 and 6 years for wells T-3 and T-1 & T-2, respectively.

The travel time estimates calculated above are based on our present knowledge of the hydrogeology and extent of contamination at the site. As additional data become

available during implementation of the proposed remedial program, these estimates may be refined. The actual duration and capacity of the recovery system will be determined by water quality results generated from the long term monitoring program.



PROJECT SCHEDULE - MONTHLY BASIS



* PROJECT SCHEDULE DOES NOT INCLUDE REVIEW TIME BY NJDEP.

Appendix "D-1a"

JFG PROJECT NO. 03-A083-00

JACOBS ENGINEERING GROUP INC.

MADISON INDUSTRIES
OLD BRIDGE, NEW JERSEY

WASTEWATER TREATMENT PLANT
PROJECT SCHEDULE

MADSCN DWG
3-3-88

JACOBS ENGINEERING GROUP INC.

MADISON INDUSTRIES SCHEDULE FOR PILOT PLANT OPERATION AND ENGINEERING & CONSTRUCTION FOR PLANT WASTE WATER TREATMENT FACILITY

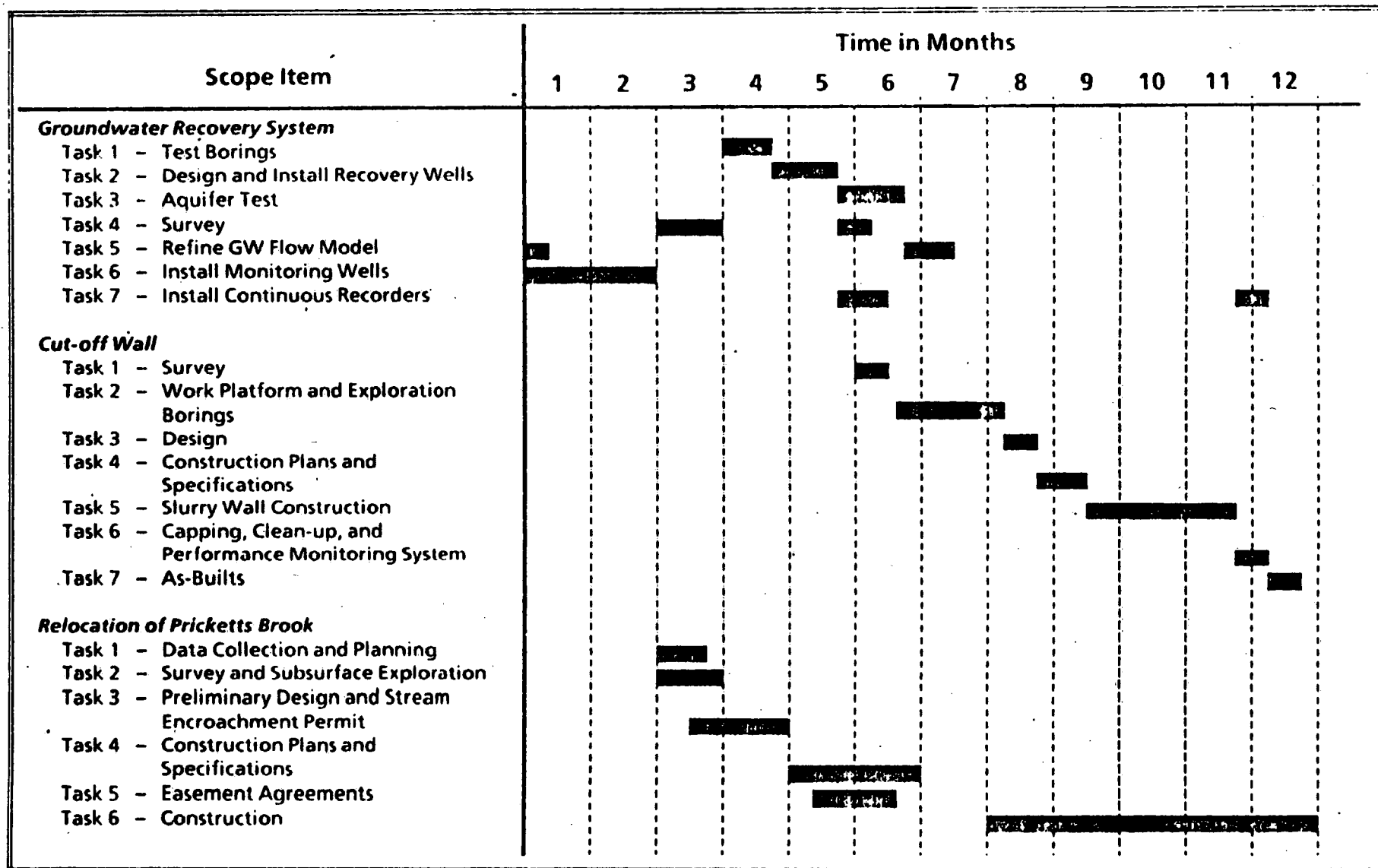
The Schedule is based on the study, pilot plant design and operation, detail engineering, design and construction for a plant waste water treatment facility. The process, to be confirmed by pilot plant work, is based on pre-treatment of waste water by precipitation of solids by neutralization, recovery and recycling of precipitated metals by liquid ion exchange and by post treatment of the treated waste water by precipitation of remaining dissolved metals.

Certain assumptions have been made in developing this schedule that are yet to be confirmed by further study, pilot plant work and by subsequent data collection. The pre-treatment requirements ultimately imposed by the Middlesex County Utilities Authority (MCUA), the Old Bridge Township Sewer Authority (OBTSA) and/or the NJDEP may also require changes to the process and consequently the schedule.

The project schedule does not include time to obtain applicable permits, nor does the schedule include review time by NJDEP.

RECOMMENDED REVISIONS TO PROJECTED CONSTRUCTION SCHEDULE FOR CPS/MADISON SITE

FEBRUARY 1988



Note: Certain tasks are presented here as well as in the Design Schedule as they involve field activities which are an integral part of the final system construction.

Schedule does not include time for regulatory agency review, delays due to weather or subcontractor scheduling.

Design and construction of pretreatment system is not included.

Assumes applicable permits have been obtained prior to initiation of work.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That CPS Chemical Company, Inc. and Madison Industries, Inc., jointly and severally as Principal, hereinafter called Contractor, and [Surety], a corporation organized and existing under the laws of the State of Connecticut, with its principal office in the City of Hartford, Connecticut, as Surety, hereinafter called Surety, are held and firmly bound unto the New Jersey Department of Environmental Protection, as Obligee, in the amount of Five Million and 00/100 Dollars (\$5,000,000), to be reduced to Three Million and 00/100 Dollars (\$3,000,000) as outlined in Section 11(b) of the Consent Order Amending Judgment of June 14, 1983 dated for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successor, and assigns, jointly and severally, firmly by these presents.

Whereas, Contractor has by a certain Consent Order Amending Judgment of June 14, 1983 dated agreed to perform certain obligations in accordance with provisions outlined therein, which Consent Order is by reference made a part hereof, and is hereinafter referred to as the Contract.

Now, Therefore, the condition of the obligation is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect but for a period not to exceed five (5) years from the date of execution.

The Surety hereby waives notice of any alteration or extension of time made by the Obligee.

Whenever Contractor shall be, and declared by Obligee to be in default under the Contract, the Obligee having performed its obligations thereunder, the Surety may promptly remedy the default or shall promptly

(1) Complete the Contract in accordance with its terms and conditions, or

(2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Obligee elects, upon determination by the Obligee and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Obligee, and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof.

Any suit under this bond must be instituted before the expiration of five (5) years from the date of this bond.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Obligee named herein or the heirs, executors, administrators or successors of the Obligee.

Signed, sealed and dated

, 1985.

CONTRACTOR/PRINCIPAL:

SURETY:

CPS CHEMICAL COMPANY, INC.

By: _____

By: _____

MADISON INDUSTRIES, INC.

By: _____

BOND OF FAITHFUL PERFORMANCE

Whereas the New Jersey Department of Environmental Protection, hereinafter called the NJDEP, and CPS Chemical Company, Inc. and Madison Industries, Inc., hereinafter called the Contractor, have entered into a Consent Order Amending Judgment of June 14, 1983, dated for the operation and maintenance specified in Section 11(d) of said Consent Order (herein referred to as "the Contract");

Amount of Bond . . . One Million and no/100 Dollars (\$1,000,000).

Now, THEREFORE, the Contractor, as Principal, and the following named Surety, [Designated Surety] are held and firmly bound to NJDEP as Obligee jointly and severally in the penal sum of this Bond set forth above as Amount of Bond for which payment, well and truly to be made, the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is that if the Contractor shall promptly and faithfully perform all the conditions of the Contract in strict conformity with the terms and conditions set forth therein, then this obligation shall be null and void, otherwise it shall remain in full force and effect but for a period not to exceed five (5) years from the date of execution.

Whenever Contractor shall be, and declared by NJDEP to be in default under the Contract, NJDEP having performed

its obligations thereunder, the Surety may promptly remedy the default or shall promptly

(1) Complete the Contract in accordance with its terms and conditions, or

(2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the NJDEP elects, upon determination by the NJDEP and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and NJDEP, and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof.

The Surety, for value received, hereby stipulates and agrees that no change, alteration or addition or extension of time in the terms of the Contract or in the goods, supplies or service to be furnished thereunder shall in any wise affect its obligations on this bond; and it does hereby waive notice of any such change.

Signed, sealed and dated

, 1985.

CONTRACTOR/PRINCIPAL:

SURETY:

CPS CHEMICAL COMPANY, INC.

By: _____

By: _____

MADISON INDUSTRIES, INC.

By: _____

SUPERIOR COURT OF NEW JERSEY
LAW DIVISION-MIDDLESEX COUNTY
DOCKET NO. L-28115-76

CITY OF PERTH AMBOY, a
municipal corporation,

Plaintiff,

v.

MADISON INDUSTRIES, INC.,
a New Jersey corporation, and
CHEMICAL & POLLUTION SCIENCES,
INC., a New Jersey corporation,

Defendants.

SUPERIOR COURT OF NEW JERSEY
CHANCERY DIVISION-MIDDLESEX COUNTY
DOCKET NO. C-4474-76

STATE OF NEW JERSEY, DEPART-
MENT OF ENVIRONMENTAL PROTECTION,

Plaintiff,

v.

CHEMICAL & POLLUTION SCIENCES,
INC., a New Jersey corporation and
MADISON INDUSTRIES, INC., a New
Jersey corporation,

Defendants.

Decided July 31, 1981

Albert W. Seaman, for plaintiff City of
Perth Amboy.

Rebecca Fields, Deputy Attorney General
and Steven R. Gray, Deputy Attorney General,
for plaintiff State of New Jersey, Department
of Environmental Protection (James R. Zazzali,
Attorney General of New Jersey, attorney; John
J. Degnan, former Attorney General).

John A. Lynch, Jr. for defendant Madison Industries, Inc. (Lynch, Mannion, Martin, Benitz & Lynch, attorneys).

Murry D. Brochin & Michael L. Rodburg for defendant Chemical & Pollution Sciences, Inc. (Lowenstein, Sandler, Brochin, Kohl, Fisher & Boylan, attorneys).

FURMAN, J.S.C.

This consolidated action is brought by the State Department of Environmental Protection (DEP) for specific remedies under the Water Pollution Control Act, N.J.S.A. 58:10A-1 et. seq., and the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11, and by the City of Perth Amboy (City) in tort for damages for industrial pollution of the Runyon well field, a 1200 acre water resource owned by it in Old Bridge Township.

The Runyon well field is a few hundred feet downgrade and downstream on Prickett's Brook from the industrial sites of defendants Chemical & Pollution Sciences (CPS) and Madison Industries (Madison). The industries acquired their sites and started operations here in the late 1960's after a zoning amendment in then Madison Township redistricting the area to heavy industrial. CPS processes, treats and stores alcohols, esters and other organic compounds. Madison produces zinc sulfate, zinc chloride and other zinc compounds for fertilizer, pharmaceutical and food additives.

Prickett's Brook flows into Prickett's Pond within the Runyon well field. Thirty-two suction wells adjoining Prickett's Pond and three pump wells further downstream have been shut down

because of contaminants exceeding potable water standards. Groundwater contours set apart the Prickett's Brook watershed, about 192 acres of the total 1200 acres, from the more easterly Tennett's Pond watershed within the Runyon well field. After the shut down of its suction and pump wells in the Prickett's Brook watershed, the City has drawn most of its water supply from suction wells adjoining Tennent's Pond, which tap the underlying aquifer known as Old Bridge Sands, and from two nearby pump wells, which tap the Farrington aquifer at a depth of 195 feet below the surface and 170 feet below sea level. The Farrington aquifer in this area is threatened by salt water intrusion.

Prior to the introduction of the two industries poised above the Runyon well field, there was no significant heavy metal or organic chemical pollution of the City's water resource. Organic chemicals have leached into the aquifer as the result of spills, leaks and wash-off from precipitation on the CPS premises. Of the organic chemicals only chloroform occurs in a natural state. The others, chiefly chlorinated hydrocarbons, are products and by-products of CPS processing and conversion. Most of these organic compounds are carcinogenic and highly toxic to humans in concentrations exceeding a few parts per billion, for example methylene chloride and tetrachloroethane or in any trace amount, for example benzene.

Chemical testing has established dangerous and alarming levels of organic chemicals far exceeding potable water standards

in the ground water under the CPS site, downgrade from there to Prickett's Pond and in the water of Prickett's Pond.

Madison has stored zinc, lead and cadmium in outside piles on its industrial site. One zinc pile is of substantial dimensions. The premises were not paved until 1973. In rains and snows heavy metals have washed off into the soil and into Prickett's Brook from the Madison premises.

According to chemical analysis results, zinc, lead and cadmium concentrations far exceeding potable water standards are present under the Madison site, downgrade to Prickett's Pond and in the sediments of the brook and pond. A reliable expert opinion estimated the total weight of zinc in the bottom of Prickett's Pond at approximately 50,000 pounds.

As the result of testimony and evidence introduced at a preliminary hearing and at a several week trial on liability, supplemented by testimony and evidence introduced at a two week trial on remedial relief and damages, this Court reached findings and conclusions on the issue of liability which are incorporated herein.

In summary, this Court has determined that organic chemical emissions from CPS were the competent producing cause of organic chemical pollution of the Runyon well field and that heavy metal emissions from Madison were the competent producing cause of heavy metal pollution of the Runyon well field.

Both the Water Pollution Control Act and the Spill Compensation and Control Act impose strict liability. The Water Pollution Control Act prohibits discharge of industrial waste,

chemical waste or other pollutants into the groundwater of the State, except by permit, N.J.S.A. 58:10A-6. The Spill Compensation and Control Act prohibits discharge of hazardous substances into the groundwater of the State, except by permit, N.J.S.A. 58:10-23.11c. Under both acts discharge is defined to include any emission. Hazardous substances within the Spill Compensation and Control Act are set forth in N.J.A.C. 7:1E-Appendix A.

DEP proved violations of both acts, that is unlawful discharges without permits by the industrial defendants, for which specific remedial relief may be granted in its favor.

The City's action in tort is grounded upon breach both of common law and statutory duties. Under general principles an upstream owner is liable in damages for pollution of a downstream owner's water supply by wrongful act or omission, including industrial pollution, which unduly interferes with the downstream owner's right of use and enjoyment. Ballentine & Sons v. Pub. Serv. Corp., 86 N.J.L. 331, 333-334 (E.&A. 1914); Worthen & Aldrich v. White Spring Paper Co., 74 N.J.Eq. 647 (Ch. 1908); Beach v. Sterling Iron and Zinc Co., 54 N.J.Eq. 65, 79 (Ch. 1895); Holsman v. Boiling Spring Bleaching Co., 14 N.J.Eq. 335 (Ch. 1862); Annotation, "Landowner's right to relief against pollution of his water supply by industrial or commercial waste," 39 A.L.R. 3d 910 (1971); Hanks "The Law of Water in New Jersey: Groundwater," 24 Rutgers L. Rev. 621 (1970).

The City also asserts special injury for breach of defendants' statutory duties imposed for the protection of the public, including the City. Priozzi v. Acme Holding Company

of Paterson, 5 N.J. 178, 186 (1950). The Water Pollution Control Act and the Spill Compensation and Control Act do not preempt private remedies. Cf. Middlesex County Sewerage Authority v. National Sea Clammers Association, 49 U.S.L.W. 4783 (June 23, 1981).

The Water Pollution Control Act sanctions the award of compensatory damages "to any persons who have been aggrieved by the unauthorized discharge," N.J.S.A. 58:10A-10c(4). The Spill Compensation and Control Act recognized a private right to compensatory damages as authorized by common law, N.J.S.A. 58:10-23.11g(b).

Accordingly, the City is entitled in tort to any proven damages to its water resource against both defendants.

To some extent the remedy sought by the City conflicts with the remedy sought by DEP. Because of the excessive levels of pollution in Prickett's Brook watershed, the City proposes to abandon the watershed, to divert Prickett's Brook to the south and east, to dredge the sediments out of the pond and to rely for its water supply into the indefinite future upon its suction and pump wells in the Tennett's Pond watershed. It seeks damages for loss of 192 acres, out of its 1200 acre well field, for the only beneficial use to which this property, located within another municipality, may be put by it, that is as part of its water supply source. It also seeks damages for loss of the water itself or, more properly, the impairment of its capacity to divert the water of the Runyon well field up to a maximum gallonage per day, according to its permit from DEP, N.J.S.A. 58:4A-2.

DEP's position on the remedy issue is that Prickett's Brook watershed may be safely restored and purified within four years by a comprehensive program of containment and purging of contaminants. Responsible for broader public interests than the City, DEP proposes to safeguard the future water supply not only of the City but of municipal and other downstream users northward to South River.

Specifically, DEP's recommended program is as follows. A slurry cutoff wall three to five feet thick of Bentonite or a similar impermeable substance would be installed surrounding the two industries at their boundaries and extending in an inverted V on property owned by the City to the vicinity of the Prickett's Brook inlet to the pond, to a depth of about 70 feet and anchored in the South Amboy fire clay layer underlying the aquifer. Within the slurry cutoff wall, maintenance pump wells would be sunk to prevent overflow by precipitation or otherwise. The maintenance wells would be operated indefinitely. Outside the wall four decontamination pump wells would be sunk to purge the groundwater immediately upgradient from and adjoining Prickett's Pond. The decontamination wells would be operated for as long as necessary, up to four years. Discharge would be by force main into the Middlesex County Utilities Authority interceptor. The rate of pumping and any heavy metal removal or other treatment of extracted groundwater prior to discharge into the interceptor would conform to requirements and standards imposed by the authority. Prickett's Brook would be diverted to a new channel to the south

and east bypassing the two industries. Open piles of zinc, lead and cadmium on the Madison premises would be enclosed and covered within a shed or other structure.

DEP's proposal, in conjunction with the dredging and pumping of Prickett's Pond to be undertaken by the City, substantially accords with the report and recommendation of an engineering firm specializing in hydrogeology, which was appointed by this Court as its impartial expert to investigate the feasibility and advisability of containment and removal of contaminated groundwater and soils in the Prickett's Brook watershed.

According to the Court's impartial expert and to other witnesses on behalf of DEP, the slurry cutoff wall is the state of the art, the most advanced engineering technique, for the containment of pollutants within an industrial site. There is a reasonable probability that it should succeed, together with the recommended measures for the purging of organic chemicals and heavy metals, in restoring and purifying Prickett's Brook watershed as a source of potable water within four years.

This Court rejects the City's proposal to abandon Prickett's Brook watershed and adopts DEP's proposal for comprehensive measures to contain contaminants within the two industrial sites, to decontaminate the groundwater downgrade to Prickett's Pond and to reroute Prickett's Brook.

The statutory authority of this Court to provide a specific remedy is clear. No fines are sought by DEP, rather an order to compel contribution by the industrial defendants to the cost of its recommended program for restoration of Prickett's Brook watershed.

Enforcement of the Spill Compensation and Control Act, extending liability to any act or omission resulting in the emission of a hazardous substance into the groundwater of the State, may be by an order imposing the cost of "all cleanup and removal costs" on or off the premises of the industrial polluter, N.J.S.A. 58:10-23.11g(c).

The Water Pollution Control Act is equally specific, barring unlawful discharge of pollutants into the groundwater of the State and providing as a remedy, N.J.S.A. 58:10A-10c(3), "[a]ssessment of the violator for any cost incurred by the State in removing, correcting or terminating the adverse affects upon water quality".

This Court orders the industrial defendants to contribute to the State for the construction and operation of a slurry cutoff wall, maintenance wells and decontamination wells and the rerouting of Prickett's Brook by the State or under its supervision, in the amounts and proportion as follows. In addition, Madison is ordered to enclose and cover the open heavy metal piles on its premises within a shed or other structure approved by DEP.

The cost of installation of the slurry cutoff wall, approximately a mile in total length, is fixed according to the estimate before the Court at \$1,820,500. That cost is to be borne by the industrial defendants in proportion to the area enclosed by the slurry cutoff wall within their respective industrial sites, that is according to a fraction, the numerator of which is the area of their enclosed premises and one half of the enclosed

land area outside both industrial premises and the denominator of which is the total land area enclosed within the wall.

The industrial defendants should contribute equally the cost of construction and operation of the maintenance and decontamination wells except for the cost of heavy metal removal and sludge dewatering which should be borne by Madison as the source of heavy metal contamination. The total cost is fixed according to the estimate before the Court at \$1,700,000, upon the assumption that, if pumping is limited to a million gallons per day, the Middlesex County Utilities Authority would accept the extracted water without treatment except for heavy metal removal and sludge dewatering. No separate estimate of the cost of heavy metal removal and sludge dewatering is before the Court. The judgment should be molded to impose that cost exclusively on Madison.

The cost of diversion of Prickett's Brook into a new channel bypassing the two industrial premises is fixed according to the estimate before the Court at \$583,000. That cost should be borne equally by the industrial defendants.

The remaining issue is that of compensatory damages to be awarded to the City as a proximate result of defendants' breach of both common law and statutory duties owed to it. The City's count for punitive damages is dismissed in the absence of proof of wilful or malicious dumping of pollutants, except for one incident of deliberate hosing off on the CPS premises.

A major portion of the damages sought by the City would compensate it for the future dredging and pumping of Prickett's Pond, a project embraced within the total recommendation of the Court's impartial engineering expert and ancillary to the measures ordered by way of specific remedial relief in favor of DEP. Because of the effect of Prickett's Pond in recharging the aquifer its cleanup by dredging and pumping is integral to the restoration of the watershed.

The City proposes disposal of the dredged sediments from the pond in a site on its premises sealed off by an impermeable lining and cover approved by DEP. That cost is fixed according to the testimony before the Court at \$585,000 and is awarded as damages to the City against Madison as the source of heavy metal contamination of the sediments.

In addition, damages are awarded to the City for the estimated cost of pumping, treating and discharge through force main of the waters of Prickett's Pond, which are polluted primarily by organic chemicals in solution. That cost is fixed according to the estimate by the impartial engineering expert at \$430,000 and is awarded as damages to the City against CPS as the source of organic chemical contamination.

The view of the Court is that, because of the divergent injurious consequences of heavy metal and organic chemical contamination of Prickett's Pond, damages for its cleanup are divisible and should be assessed separately. Dredging and pumping of the pond should be coordinated with construction projects undertaken by the State pursuant to the judgment in favor of DEP.

The City has proven and is entitled to damages against both defendants for effective loss of the use of approximately 190 acres in Prickett's Brook watershed for the four years which should be required for its safe restoration by containment and purging. A treatment plant, which the City will continue to operate, is physically located within the total 192 acres of the watershed. Damages are fixed according to the testimony at \$100,000, that is for four years' loss of land estimated to be worth \$1,500,000 to the City as a water resource.

The City's claim for additional damages for loss of water is denied. The present water needs of the City are being met by the suction and pump wells in the Tennent's Pond watershed. The award of damages to the City presumes that the measures ordered by this Court for restoration of Prickett's Brook watershed within four years will succeed and is without prejudice to any future claim for damages if these measures fail or if, before four years time, the water needs of the City exceed the capacity of the presently operating wells in the Tennent's Pond watershed.

Submit a judgment accordingly.

SUPERIOR COURT OF NEW JERSEY
APPELLATE DIVISION
DOCKET NOS. A-1127-81T3
A-1276-81T3
(Consolidated)

CITY OF PERTH AMBOY, a)
municipal corporation,)

Plaintiff-Respondent,)

v.)

MADISON INDUSTRIES, INC.,)
et al.,)

Defendants-Appellants.)

On appeal from final order of
Superior Court of New Jersey,
Chancery Division, Middlesex
County

NEW JERSEY DEPARTMENT)
OF ENVIRONMENTAL PROTECTION,)

Plaintiff-Respondent,)

v.)

CHEMICAL & POLLUTION SCIENCES,)
INC., et al.,)

Defendants-Appellants.)

Civil Action

Sat below:

Honorable David D. Furman, J.S.C.

BRIEF OF RESPONDENT CROSS-APPELLANT,
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

IRWIN I. KIMMELMAN
Attorney General of New Jersey
Attorney for Respondent Cross-
Appellant, New Jersey Department
of Environmental Protection
Richard J. Hughes Justice Complex
CN 112
Trenton, New Jersey 08625

DEBORAH T. PORITZ
Deputy Attorney General
Of Counsel

STEVEN R. GRAY
Deputy Attorney General
On the Brief

COUNTERSTATEMENT OF FACTS

INTRODUCTION

Commencing in 1970, the DEP and the City undertook a systematic and thorough investigation to determine the sources of chemical contamination of the surfacewaters, groundwaters, and soils of Prickett's Brook watershed including the sediments of Prickett's Pond.*

- 10 The plaintiffs presented the results of their comprehensive investigation at the trials in 1978 and 1979. All the analytical results of the sampling of surfacewaters, groundwaters, and soils in Prickett's Brook watershed which served as the basis for the plaintiffs' conclusions as well as the data introduced by the defendants were available to the court's expert, Dames and Moore, for its review. Dames and
- 20 Moore studied the data and completed limited sampling of its own to determine the advisability and feasibility of containing and removing the chemical contaminants in the City's water supply; it recommended the remedy which the trial court ultimately adopted with certain modifications suggested by the plaintiffs.

LIABILITY

30

Incidents and Sources of Chemical Pollution at the defendants' sites

- The CPS property is located along Waterworks Road in Old Bridge Township adjacent to and northeast of the Madison property. State experts testified that Prickett's Brook flows downstream from above the CPS site through the Madison site and then into the Perth
- 40 Amboy wellfield where the once active Bennett Suction line water supply wells are located. The stream then passes through Prickett's Pond and continues in a general northeast to southwest direction towards

* This pollution was the cause of the closing in 1971 and 1973 of the City's Bennett supply wells.

the City's other active water supply wells until it empties into Tenant's Pond (1T23-2 to 24-18).

10 CPS first located at its present site in 1967; it began industrial manufacturing operations in 1969 (6T90-8 to 11). The DEP investigators testified concerning the conditions at the CPS site where there had been no physical barriers such as impervious paving or containment berms in large areas to prevent chemicals spilled in handling
10 from reaching the sandy soil (and groundwater below) or the Prickett's Brook. Situated adjacent to the stream channel CPS had chemical tanks and storage areas, and a railroad siding (1T23-23 to 26-1). Chemical and fuel storage tanks had been initially located on sandy soil within 50 feet of the Brook, without paving or berms to protect against chemical spill-
20 age (11T16-4 to 12; 11T17-2 to 10). Paving was not installed underneath these chemical tanks until 1976 (2T90-2 to 10; 16T60-4 to 61-5).

Chemicals were moved in and out of the facility on the railroad siding and by tractor trucks across unpaved areas or areas where pavement was severely cracked and broken (1T30-2 to 7). Surface water draining from the site moved through corrugated metal pipes to the Brook
30 (1T26-8 to 19). Open drums and barrels containing chemical materials were stored on these unpaved portions of the site (15T111 to 15T114).

Moreover, the transfer of chemicals from tank cars was made via a piping system that paralleled the railroad tracks directly adjacent to the Brook without any barriers to prevent spillage to the soil or directly into the stream (11T18-8 to 16). Testimony was presented
40 that even under the best conditions use of this method of chemical transfer resulted in spillage (11T20-4 to 6). Spillage at these locations in fact occurred (11T22-14 to 23; T27-2 to 6); and laboratory analysis of it for organic chemical content showed high values (5T3-20 to 23; 11T28-12 to 15).

That spills of chemical materials occurred frequently at these problem areas was well documented by witnesses presented by the DEP, by the City and by Madison. Christopher Schiller testified he had been to the CPS site about 60 times over a five-year period to conduct stream and groundwater sampling and had observed numerous
10 puddles and stained soils on the CPS site evidencing past spills (17T61-14 to 18). Among the many samples Schiller took was one from a chemical tank storage area; this sample contained many hazardous organic chemicals including tetrachloroethane at 15,300 parts per billion (ppb) (Exh. P-38 (1978)).* On another occasion, he sampled the
20 discharge from culverts which drained into Prickett's Brook; this sample contained methylene chloride in concentrations of 640 ppb** (Exh. PS-36 (1979) sample no. 53976).

* Exhibits introduced by the State at the 1978 trial were designated P-1 et seq.; at the 1979 and 1981 trials, the State's exhibits were designated PS-1 et seq. These exhibits are available
30 for review at the court's request.

** These organic chemicals were among those used and stored by CPS in great quantities at its site. This fact was documented by an independent accountant who had audited CPS operations (Exh. PS1-PS9 (1979)).

A toxicologist for the State, Dr. Patel, testified concerning the concentrations of chemical pollutants he believed would render water in the Prickett's Brook unpotable. With respect to the organic compounds found in the groundwater of the watershed, Patel stated that
40 benzene, vinyl chloride and carbon tetrachloride could not be tolerated at any concentration in the water supply because these chemicals were known or suspected carcinogens. He established the threshold level for methylene chloride at 7.8 ppb, toluene at 10.3 ppb, tetrachloroethylene at 10 ppb, tetrachloroethane at 1.4 ppb (18T49-14 to 61-1). The trial court adopted these standards (5T3-20 to 25); oral opinion of the trial court at p. 4, Ra15).

The chief of DEP's enforcement unit beginning in 1975, William Honachefsky, also visited the CPS site at least one dozen times and also saw evidence of past spills on each of these occasions (15T114-1 to 6). He estimated that the diameter of these puddles of spill chemical material or colored stains on the unprotected soils
10 ranged from 5 to 20 feet (16T14-7 to 11). On one of these occasions, Honachefsky witnessed a CPS employee use a hose to discharge accumulated spillage from inside a chemical tank storage area directly onto the ground and into Prickett's Brook (1T42-3 to 43-12). Laboratory analysis of the material disclosed the discharge contained high
20 levels of hazardous organic chemicals (5T3-20 to 23).

Personnel employed by Madison Industries also testified on behalf of Madison and the City, and presented photographs and scientific data to substantiate that hazardous chemicals were spilled frequently on unprotected areas of the CPS site, onto the railroad siding, and into Prickett's Brook itself. Madison's plant manager, Frank Holloway,
30 described the spills of chemicals he had observed as an ongoing repetitive discharge. He observed material flowing from the culverts on the CPS property into the stream; he observed steam cleaning of the chemical tank cars on the CPS property directly over the stream (12T4-19 to S-10; 12T16-8 to 27-9).

Robert Paulus, an employee of Madison Industries, described
40 photographs he had taken depicting discharges from the railroad tank cars onto the stream embankment. He testified that this spillage onto this embankment frequently entered into the stream (12T78-21 to 93-13).

At his direction, Madison sampled the surfacewaters of the brook at various times when these spills occurred on the CPS property and submitted these samples for analysis by Dr. Samuel Faust of Rutgers University. In August of 1975, Dr. Faust analyzed samples of discharges on or immediately downstream of the CPS property which contained
10 elevated levels of organic substances (13T40; Exh. PC-42 (City) (1979)).

Madison personnel also sampled discharges from the CPS culverts on several occasions in the spring of 1978. These discharges were a variety of colors and laboratory analysis of these samples conducted
20 by Rutgers University disclosed that they contained large amounts of trichloroethylene (5950 ppb), tetrochloroethylene (218 ppb) and many other hazardous organic chemicals which CPS used in its industrial operations (1T133 to 140; 2T4 to 5; 13T140-22 to 143-9; 14T13-12 to 15-9; Exh. P-31 (1978)).

Whereas the DEP's investigation of the CPS industrial operations led to the conclusion that the defendant was responsible for or-
30 ganic chemical contamination, the State's investigation of Madison revealed that it had polluted surfacewaters, groundwaters, and soils with heavy metals. Witnesses presented by the DEP and by the City of Perth Amboy described the housekeeping practices of Madison Industries as extremely poor and "sloppy." Madison Industries located at its
40 present site in 1969. As early as 1971, the State DEP investigators visited the site and observed that the only paved portion of the Madison site was the inside of the manufacturing building and the truck

loading platform (9T26-1 to 7). On numerous visits between 1970 and 1976, these investigators observed open chemical drums which were stored on these unpaved portions of the site and whose greyish-white contents were leaking onto the soils. Piles of raw chemicals and spent process materials were exposed to the elements; zinc dust
10 generated during the transfer of chemicals to these piles from railroad cars covered the grounds. Streams of colored liquids drained onto the soils and into the Brook. Water used for industrial cooling was also discharged into the Brook (11T11 to 14; 14T135-8 to 15; 17T45-13 to 46-18). These chemical liquids and materials were sampled and analyzed and they contained alarming concentrations of heavy metals such as zinc (e.g.,
20 1590 parts per million (ppm))* (9T27-7 to 35-15; Exh. PS-15, (1979); 10T33 to 34).

One DEP inspector, Schiller, observed these conditions frequently during many of his 60 visits to the site (17T45-2 to 52-13). He described one incident when Madison discharged approximately 3,000
30 gallons of liquids into the Brook. A sample of this material contained zinc (205 ppm), lead (1.76 ppm) and cadmium (1.6 ppm) (Exh. PS-40, sample no. 01975).

William Honachefsky highlighted two of his many visits in June and August of 1975 which he described as representative of the

* The State's toxicologist, Dr. Patel, advised the court that
40 potable water should contain no more than 12 to 20 ppm of zinc; he also testified that potable water standards permitted no more than .05 ppm of lead and .01 ppm of cadmium in the water supply (18T64-14 to 71-9). In its decision the trial court adopted these standards (7/8/79 oral opinion of trial court, at p. 7, Ra17).

The DEP also sampled the piles of raw materials. A 1975 sample confirmed that zinc, lead and cadmium were present in large quantities (17T52-17 to 54-9).

conditions at the Madison site. He noted chemical spillage, piles of process materials scattered about the site, and sludge from the zinc manufacturing processes spilled out from a tank onto the ground. Large areas of the site still remained unpaved; there was no berm on the southerly boundary of the property to contain contaminated surface water drainage (15T112-1 to 14).**

Relying in part on all of this testimony concerning the incidents of pollution and conditions at the defendants' sites, the trial court concluded that CPS was the principal source of organic contamination and Madison was the principal source of heavy metal contamination. In its findings, it expressly noted the pattern of spills, leaks, deliberate discharges, and "wash-off" from precipitation of chemicals at the CPS site, which had "leaked" into the groundwater (5T4-2 to 22; 33T14 to 25, Ra24 *). In relation to the Madison operations, the court noted the open storage of zinc, lead and cadmium and the recurrent problem of rain water "wash-off" of materials from these open piles onto unprotected soils (33T6-15 to 21; Ra16).

Geological and Hydrological proofs that the defendants were the sources of chemical pollution

During the liability trial witnesses presented by the State and by the City described the hydrological investigations which began in 1973 and led to the conclusion that the defendants were responsible for the massive chemical contamination of the Perth Amboy wellfield. Beginning in 1973, the DEP's enforcement unit set about conducting a series of surfacewater sampling at fixed points along Prickett's Brook

* The July 8, 1981 oral opinion of the trial court is designated 33T ____.

** The President of CPS, Phillip Meisel, described many occasions on which he witnessed Madison discharging the bluish-black contents of a tank truck into the stream (6T47-9 to 59-10).

(11T6-10 to 17) in order to determine at what point contamination was entering the system. These contaminants had necessitated the closure of the Bennet water supply wells in 1971 and 1973.

10 The City retained a hydrologist (Charles Robinson) and an environmental scientist (Dr. Thomas Tuffey) who also undertook a similar investigation. However, the City's experts sampled soil sediments at points along the Brook because their initial task was to determine the source of the heavy metal contamination of the sediments in Prickett's Pond which serves to replenish the underground aquifer (i.e., water supply) (10T17 to 22). Dr. Tuffey described the Pond as a sink in a hydrological system which transported pollutants from their source along the stream and into the Pond. He estimated that the Pond contained as
20 much as 50,000 pounds of zinc and other heavy metals (10T28-3 to 24).

After analyzing a series of samples, the DEP and the City each reached the same conclusion. Results of stream sampling conducted at locations immediately upstream and downstream of the defendants' premises confirmed that CPS was a principal source of organic contamination to Prickett's Brook and Madison was a principle source of inorganic
30 contamination (14T131-13 to 16; 11T9-4 to 7; 15T107-1 to 20; 10T46-2 to 6; 15T44-1 to 7; Exh. PS-25 (1979)).

Aware of the permeability of the soils overlying the Old Bridge Sands aquifer, the DEP expanded its investigation to the groundwater in the area (15T103-4 to 11). Monitoring wells were strategically
40 placed to "ring" the defendants' properties. The City installed seven monitoring wells in 1976.* Shortly thereafter, at the DEP's direction,

* These wells are designated Perth Amboy (PA) wells A-H. The location of these wells is illustrated in PS-1 (1981) (ACa561).

five monitoring wells were installed on Madison Industries' property (15T104-4 to 15) and three on CPS' property (15T104-16 to 19); these wells were sampled during the next several years (15T106-12 to 15; Exh. P-44, 45 (1978); Exh. PS-32, 34, 35 (1979); PS-3, 4, 4a, 6, 7, 8 (1981)). Once again, results of samples taken from these wells conclusively demonstrated
10 that monitoring well S-1 (on the CPS property) adjacent to the chemical tank farms was the area from which organic chemical contamination originated, and that the Madison site was the location from which inorganic contamination originated (15T107-9 to 20).

Relying on laboratory analyses as the basis for his testimony, the DEP's geologist Dalton testified that he had detected two distinct
20 "plumes" of organic and inorganic chemical contamination in the groundwater moving downgradient from the defendants' sites in a general north-east to southwest direction in the water table through the wellfield (16T45-18 to 20, 16T50-9 to T51-18). The plume of organics was traceable to the CPS industrial operations, specifically the vicinity of the CPS tank farm (16T52-12 to 18), and the plume of inorganics to the
30 Madison site (16T52-9 to 11).*

* At the trial in 1979, Dalton testified that the wells most heavily polluted with organic chemicals were monitoring wells S-1, MI-3, and Perth Amboy B (16T T50-3 to 4). These wells contained numerous toxic organics, including methylene chloride and tetrachloroethylene, in concentrations in excess of 10,000 ppb (Exh. P-44, 45 (1978); PS-34-36 (1979)). See note, p. 13, supra. Dalton also determined that the wells most heavily contaminated with inorganics (i.e., heavy metals)
40 were monitoring wells MI-1, MI-2 (on the Madison property) and Perth Amboy A (downgradient from Madison in the wellfield) (16T49-22 to T50-4). These wells contained heavy metals in concentrations in excess of 1,000 ppm (PS-40 (1979)). See note, p. 16, supra.

CPS questioned Dalton concerning the fluctuations in concentrations of various organic chemicals over a period of time. He explained that it was not unusual in monitoring groundwater quality, to find

Fn. Cont'd.

State experts testified that they had explored possible sources of contamination on the northeast of CPS and were satisfied that CPS was the primary source of the organic chemical contamination because the groundwater samples taken from monitoring points "upstream" of the CPS property consistently disclosed "background" or nondetect-
10 able levels of chemical pollutants compared with the elevated levels in well S-1 on the CPS property and in wells downstream of the property (16T52-3 to 53-22; T25-24 to 26-9; 15T110-6 to 111-1). Similarly, the City's experts concluded that Madison was the primary source of heavy metal contamination because the groundwater monitoring wells would have revealed heavy metal contamination from other sources whereas the re-
20 sults of sampling disclosed no such sources (10T86-6 to 93-14).

In their defense, CPS and Madison alleged that there were other sources of organic chemical and heavy metal pollution. At the liability trial, CPS introduced evidence of pollution which it alleged had occurred on property of the EPL group. Factual witnesses described chemical spills which allegedly they had observed at this site. How-
30 ever, CPS offered no geological expert who could document that chemical pollution had in fact migrated towards Prickett's Brook;* nor did CPS

Fn. Cont'd.

40 fluctuations in the concentrations of these chemicals. This did not mean that the water was no longer contaminated. Rather, it reflected the fact that the materials quite often moved in "slugs" attributable in part to the episodic pattern according to which these chemicals had been discharged into the groundwater (16T61-15 to 65-7).

* CPS retained experts who simply reviewed and evaluated the State sampling results. They did not conclude that CPS was not responsible for the massive amounts of organic pollutants in the groundwater.

Fn. Cont'd.

attempt to explain the manner by which any such pollution may have contributed to the plumes of groundwater contamination located downstream of monitoring wells that consistently had showed no significant contamination.*

10 Madison was also not able to successfully overcome the conclusions of the State's geological experts. Its consultant, Dr. Faust, testified that he had found other potential sources of heavy metal pollution. However, he was a chemist and could not explain the reason that the monitoring wells did not disclose contamination from the potential sources which he had identified. Moreover, the City's expert, Dr. Tuffey, testified that the results of Dr. Faust's tests for sources
20 of potential heavy metal pollution on the Madison site were consistent with the conclusion that Madison was the primary source of heavy metal contamination in the wellfield (10T46-8 to 47-13).

Fn. Cont'd.

30 Rather, they attempted without success to convince the court that the sampling and testing procedures utilized over a seven year period by the DEP were improper. CPS' experts also spent a great deal of time trying to show that the organic pollution in monitoring well B could not have traveled in the groundwater from CPS. (The State geologist Dalton testified that the groundwater moved from the rear half of the CPS property near well S-1 and was influenced by the drainage divide between two watersheds which caused it to move towards monitoring well B, 16T79-17 to 86-15.) However, CPS' experts could point to no source other than CPS for the high levels of pollution in groundwater in well B and well S-1. (Well S-1 was located on the CPS property in close proximity to the railroad unloading area and the chemical storage tank farm.)
40

* The State contended that this property of the EPL group may have drained in a different direction into a watershed adjacent to the Prickett's Brook watershed (20T3-13 to T5-19).

10 In its final decision, the trial court adopted much of the testimony introduced by the experts for the State. It accepted the geologist Dalton's testimony that CPS and Madison were the primary source of the plumes of organic and metal contaminants and it characterized as "compelling" the massive amount of sampling data which the DEP and Perth Amboy introduced at trial (23T9-5 to 6).

THE REMEDY

20 At the 8-day remedy trial which commenced on June 15, 1981, the DEP offered testimony supporting with minor modifications the remedy recommended in the report prepared by the court's expert. The Dames and Moore report discussed the merits and projected the costs of 75 different remedial programs; it then ranked these alternatives according to their cost effectiveness.* It urged the trial court to direct the implementation of the following remedial measures:

- 30 1. Construction of an underground clay "slurry wall" around the perimeter of the industrial sites of the defendants to contain the most heavily contaminated groundwater located under and in the vicinity of the defendants' premises;
2. Installation and pumping of four decontamination wells located outside the perimeter of the slurry wall to purge the remaining "hot spots" of groundwater pollution;
- 40 3. Dredging and disposal of the contaminated sediments and waters of Prickett's Pond;

* The report also explained that the alternative of taking no action was unacceptable because it permitted the pollution to spread and endanger other sources of water supply (Exh. PS-1 (1981), p. 14-16 (ACa529)).

4. Relocation of the section of Prickett's Brook which passes through the industrial sites of the defendants to isolate the stream from the defendants' industrial operations.

10 This remedy was designed to accomplish two objectives. It would prevent the further spread of chemical contaminants from endangering the remaining active water supply of the City and other nearby sources of supply. By containing within the wall the heaviest zones of pollution and purging the remaining minor "hot spots" of contamination located outside the wall, it would rehabilitate groundwater outside the wall and thus a portion of the Bennett Line water supply wells
20 in order that these wells could be used within a few years (25T104-12 to 17, 25T154-21 to 25, 25T174-8 to 175-19).*

Towards this end, Joseph Minster, Dames and Moore's principal geologist on the project, advocated the installation of an underground clay impermeable barrier (i.e., a slurry wall) to encircle the defend-

30

* The plaintiff, City of Perth Amboy, characterized the Prickett's Brook section of the Perth Amboy watershed as "dead" for at least 60 years, and therefore advocated a different approach. Its expert proposed the development of additional supply wells in the remaining active section of the watershed and the rerouting of Prickett's Brook (which passed through the defendants' industrial sites) to bypass entirely the watershed.

40 The trial court, with the broader public interest in mind, decided that the City's proposal ignored the risk that the chemical pollutants posed to other sources of water supply (such as the City of Sayreville supply) if these pollutants were not contained and purged from the groundwaters (33T9-25 to 10-20).

ants' industrial sites and to permanently encapsulate the heaviest concentrations of pollutants. The slurry wall, Minster explained, is a proven technology and particularly well-suited to the geology of the area because various "site-specific" geological studies documented the existence of naturally occurring underground horizontal clay layers at depths of approximately 70 and 120 feet which would serve as the bottom for the slurry wall "bathtub" and insure that the pollutants do not escape the enclosure (25T95-21 to 98-15, 25T100-9 to 25, 26T7-14 to 12-8). The exact depth and configuration of the wall would be determined by test borings in the field prior to the installation of the wall (26T7-14 to 12-8; 26T12-18 to 13-14).

On cross-examination Minster was asked why he had rejected an alternative remedy discussed in his report which did not include a "slurry wall" and instead contemplated the installation of groundwater extraction wells to decontaminate not only the isolated "hot spots" of pollution but also the heaviest zones of pollution. In response to these questions, Minster explained that a pumping and extraction program, without a barrier to contain the pollution, would not insure that the spread of these pollutants would be halted; neither could such a pumping program insure the removal of sufficient quantities of contaminants necessary to rehabilitate the water supply (25T101-4 to 103-6; 26T15-1 to 17-18; 26T33-7 to 36-9).*

* In this regard, Minster recounted the experience of a decontamination program in Dayton, New Jersey which focused on pumping and extraction as the means to rehabilitate the quality of groundwater. In that location, where not as many different chemical contaminants were involved, pumping had failed to cleanse the groundwater after 17 months (25T102-15 to 103-6).

Finally, Minster explained the reasons for the other components of his remedy. He advocated dredging and removal of the sediments in the Pond because these sediments were highly contaminated with heavy metals which would continually be a source of pollution to the groundwater if they were not removed (25T-107-13 to 25). With respect to his recommendation that a section of Prickett's Brook be
10 relocated to bypass the defendants' properties, Minster advocated this measure because he believed there was still the potential for further pollution at Madison and CPS. His fears were realized. A witness who had recently visited the Madison site in 1981 had observed pollution to the Brook resulting from dust blown from the zinc pile stored on
20 that site. With respect to the CPS site, there was testimony from a witness at the remedy trial who described an incident in 1981 when a CPS employee purged a contaminated monitoring well by purposefully directing the wastewaters into the stream (26T109-1 to 22; 27T58-9 to 60-1). The alternative to relocating the Brook was to encase in a pipe the section of the stream which traversed the defendants' premises
30 (26T60-7 to 22).

The State's geologist, Richard Dalton, concurred in Minster's conclusions and testified concerning minor modifications he wished to suggest in the remedy. He recommended that the slurry wall should be expanded to include a zone of contamination that had spread off the defendants' premises in order to reduce the volumes of water to be ex-
40 tracted from wells located outside the perimeter of the slurry wall, and thus the burden on the sewerage treatment plant to which the contaminated groundwater would be discharged (27T43-1 to 47-4). Dalton

also proposed that the 2400 feet length of stream channel which traverses the CPS and Madison properties be enclosed in a box culvert or pipe to prevent any further pollution (27T58-9 to 60-1). This would eliminate the need to enter property other than the defendants' to complete permanent improvements above ground (i.e., a stream channel).

10 Finally, in relation to the Dames and Moore proposal to dredge and dispose of the sediments in Prickett's Pond, the City suggested a minor modification. The court's expert had recommended that, contingent upon the governmental regulations in effect at the time when the
20 remedy is implemented, the contaminated sediment from the site would be disposed of in an approved ocean site or in a landfill registered to accept the contaminated wastes. It had projected the cost
of each of these alternatives (Exh. PS-1 (1981) ACa626). The City's consultant, Charles Robinson, recommended that the sediments be encased
30 in an impermeable liner at a site in the watershed (28T-104-13 to 105-6). This would require governmental permits and approvals but with such
approvals could be accomplished at a reduced cost (compared to ocean disposal or disposal at a hazardous waste landfill).

 At the conclusion of the remedy trial, the court adopted the recommendations of its expert as modified in part by DEP and by the City. More specifically, it adopted the DEP proposal to expand the slurry wall and thus reduce the volume of pumping and pretreatment
40 required (ACa315). The trial court also adopted the City's proposal for sediment disposal (ACa318). Finally, it allocated 5.2 million for the cleanup measures, with costs to be divided equally between the

defendants* except in two respects. The trial court specifically found that the sediments were contaminated almost exclusively with heavy metals and the expenses associated with their dredging and disposal should be borne by Madison; it also found that the Pond water was polluted with organics and allocated the costs for pumping and disposal of these waters to CPS.**

The DEP supports the trial court's decision to order the implementation of the four particular remedial measures described above. However, it appeals the provisions of the judgment to the extent that the court has 1) denied the imposition of joint and several liability on the defendants for the costs associated with the implementation of the remedy (ACa321, para. 13), 2) imposed a limitation or ceiling on the DEP's recovery and thus denied the plaintiff the right to obtain reimbursement for additional expenses for the remedy if unforeseen circumstances require such expenses (ACa321a, para. 13), and 3) denied the DEP's request that the defendants be required to post security for the amount of the judgment, as the judgment contemplates reimbursement for costs occurred by the State only after a particular request of work is completed and an invoice is forwarded to the defendants for payment (ACa318, para. 5).

* Before the entry of judgment, the DEP moved to modify the decision to provide that the defendants be held jointly and severally liable for the costs associated with the remedial relief. The court denied this motion (ACa321a, para. 13).

** As the court adopted Perth Amboy's proposal for the disposal of Pond sediments, it directed that monies in the judgment earmarked for this relief be paid to the City. The DEP will supervise the remedial work and coordinate the Pond work with the other components of the remedy (ACa318, 319).

FILED

OCT 16 1981

DAVID D. FURMAN, J.S.C.

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SUPERIOR COURT OF NEW JERSEY
 LAW DIVISION, MIDDLESEX COUNTY
 DOCKET NO. C-4474-76
 L-28115-76

CITY OF PERTH AMBOY, A Municipal
 Corporation,

(CONSOLIDATED)

Plaintiff

Civil Action

v.

FINAL ORDER AND JUDGMENT

MADISON INDUSTRIES, INC.,
 et al.,

Defendant,

STATE OF NEW JERSEY, DEPART-
 MENT OF ENVIRONMENTAL PROTEC-
 TION,

Plaintiff

v.

CHEMICAL & POLLUTION SCIENCES,
 INC., et al,

Defendant

This action was brought on for trial before the Court
 sitting without a jury, David D. Furman, J.S.C, presiding, com-

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BROCHIN, KOHL,

FISHER & BOYLAN

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mencing on June 2, 1978, May 29, 1979, and June 15, 1981, by plaintiffs, State of New Jersey, Department of Environmental Protection ("Department") by James R. Zazzali, Attorney General of New Jersey Deputy Attorneys General Steven R. Gray and Rebecca Fields, appearing, and the City of Perth Amboy ("Perth Amboy") by Albert Seaman, Esq. and George Boyd, Esq., on the claims set forth in the Department's Amended Verified Complaint filed on November 3, 1978, and Perth Amboy's Complaint filed March 16, 1977, in the presence of defendants, CPS Chemical Co., by Lowenstein, Sandler Brochin, Kohl, Fisher & Boylan, A Professional Corporation, (Murry Brochin, Esq. and Michael L. Rodburg, Esq. appearing), and Madison Industries, Inc., by Lynch, Mannion, Martin, Benitz & Lynch (John A. Lynch, Jr., Esq. appearing), and the Court having considered the evidence and the arguments of the attorneys for the respective parties; and the Court having decided that judgment should be entered in favor of the plaintiffs, Department and Perth Amboy, and against the defendants, CPS and Madison, on the issue of defendants' liability for the pollution of surface and groundwaters and soils in the Prickett's Brook Watershed in the vicinity of defendants' industrial premises in violation of State statutes N.J.S.A. 58:10A-1 et seq. and N.J.S.A. 58:10-23.11 et seq.; and the Court having considered the Department's request for specific remedial relief directing the defendants to pay for the containment and removal of the contaminants from the surface and groundwaters and soils in Prickett's Brook Watershed as well as the claim by

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Perth Amboy for monetary damages; and the State having moved on July 31, 1981, for supplemental relief; therefore

IT IS on this 16 day of *October*, 1981,

ORDERED that judgment be and hereby is entered in favor of the plaintiffs, Department and Perth Amboy, and against CPS and Madison, based upon the findings of fact and conclusions of law set forth in the oral opinion of July 8, 1981, and in the written opinion of the Court as dated July 31, 1981, as follows:

1. There is awarded to the Department a sum not to exceed \$1,820,500 to be used by the Department for the purposes outlined below in this paragraph and to be apportioned between the defendants as outlined in this paragraph:

(a) There shall be constructed and installed a slurry cutoff wall of bentonite tied into a continuous natural clay layer in the location described in the court's expert's report (Exhibit PS-1, Appendix E, Page E-12) as modified by the Department in Exhibit PS-9, (copies of which are annexed hereto.)

(b) The cost for the installation and operation of the slurry wall shall be apportioned between the defendants as follows:

(i) The cost of the construction and installation of the slurry wall is to be borne by the industrial defendants CPS and Madison in proportion to the area enclosed by the slurry cutoff wall within their respective industrial sites (i.e. Block 6303, Lots 10 and 11 respectively as designated on the tax map of

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Old Bridge Township) according to a fraction, the numerator of which is the area of the enclosed premises of CPS or Madison, as the case may be, plus one half of the enclosed land area located within the slurry wall and outside both industrial premises, and the denominator of which is the total land area enclosed within the slurry wall.

2. There is awarded to the Department a sum not to exceed \$1,700,000 to be used by the Department for the purposes outlined below in this paragraph and to be apportioned between the defendants as outlined below:

(a) There shall be installed within the area contained in the slurry wall maintenance wells not to exceed four in number;

(b) There shall be installed outside of the area contained by said slurry wall decontamination wells not to exceed four in number (see generally, Exhibit PS-1, Appendix E, Page E-13 to 16);

(c) There shall be pumping from the above referenced maintenance and decontamination wells at a rate of approximately one million gallons per day for a period of approximately four years which water will be discharged to the Old Bridge Township Sewage Authority's ("OBTSA") sewer line and then into the Middlesex County Utility Authority's ("MCUA") sewage treatment plant without pretreatment with the exception of such sludge dewatering and heavy metal removal as may be required by the MCUA or by the Department for discharges in the normal course to the MCUA system (see generally, Exhibit PS-1, Appendix E, Page E-13 to 16);

(d) Should pretreatment for the removal of metal contaminants from the water

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pumped as described in paragraph "c" above, be required, there shall be constructed and installed a plant for the treatment and removal of heavy metals (Exhibit PS-1, Appendix E, Page E-18). This treatment plant shall be operated for a period of approximately four years (Exhibit PS-1, Appendix E, Page E-19);

(e) There shall be constructed and installed a "force main" or pipeline to convey pumped waters to the MCUA system (Exhibit PS-1, Appendix E, Page E-20). This force main or pipeline shall be operated for a period of approximately four years (Appendix B, estimate SW700-2);

(f) There shall be constructed and installed monitoring wells to monitor the progress and efficacy of decontamination; these wells may be sampled and the samples analyzed.

(g) The cost for the remedial measures outlined in this paragraph "2", not to exceed \$1,700,000, shall be divided equally between the industrial defendants, CPS and Madison, except that the cost of any heavy metal removal and sludge dewatering as may be required by the MCUA or by the Department (i.e. the cost of constructing and operating a plant for the removal of heavy metals) shall be borne solely and exclusively by Madison.

3. There is awarded to the Department a sum of \$583,000 to be used by the Department for the purposes outlined below:

(a) Prickett's Brook shall be rerouted to the south of the industrial sites of CPS and Madison (Block 6303, Lots 10 and 11 respectively) in accordance with the location depicted in Figure 44 in Exhibit PS-1 or in such a manner that it completely bypasses the industrial activities on the sites of CPS and Madison;

(b) The rerouting shall be accomplished in accordance with specifications to be

developed by the Department or by a contractor selected by the State in accordance with any applicable State bidding laws;

(c) The cost of rerouting Prickett's Brook shall be borne equally by the defendants.

4. The implementation of the remedial measures outlined in paragraphs "1", "2", and "3" of this Order shall be accomplished in accordance with specifications to be developed by the Department or by a contractor selected by the Department in accordance with any applicable State bidding laws. The specifications shall be submitted to the defendants and Perth Amboy before becoming final and shall be subject to approval by the Court.

5. All of the sums which the defendants are required to pay hereunder except that required by paragraph 8 shall be paid in installments in the nature of progress payments within 20 days after presentation of (a) an invoice from the contractor who is doing the work for which the payment is required and (b) a certificate from the State that the particular work for which payment is to be made has been completed to its satisfaction. The award of \$100,000 to Perth Amboy set forth in paragraph 8 shall be enforceable at the time and in the manner applicable to a judgment at law.

6. There is awarded to Perth Amboy and against Madison a sum of \$585,000 to be used by Perth Amboy for the purposes outlined below in this paragraph:

(a) Three hundred and thirty thousand dollars (\$330,000) of the award to

WEINSTEIN, SANDLER,
BROCHIN, KOHL,
FISHER & BOYLAN
ATTORNEYS AT LAW
100 WEST 42ND STREET
NEW YORK, N. Y. 10018

Perth Amboy under this paragraph shall be used for the purpose of mechanically and hydraulically dredging the sediments of Prickett's Pond and a portion of Prickett's Brook (Exhibit PS-1, Appendix E, Page E-1 and 2);

(b) Two hundred and fifty-five thousand dollars (\$255,000) of the award to Perth Amboy under this paragraph shall be used for the purpose of disposing of the dredged sediments from Prickett's Pond and Prickett's Brook on the site of Perth Amboy's Prickett's Brook watershed property in a manner approved by and acceptable to the Department. This figure shall include the cost of lining and covering the sediments in a manner acceptable to the Department. This figure shall also include engineering and professional fees incurred in connection with the onsite disposal operation, but shall not include attorney's fees;

7. There is awarded to Perth Amboy and against CPS a sum not to exceed \$430,000 which sum of money shall be used by Perth Amboy for the purposes outlined below in this paragraph:

(a) The award of the sum of four hundred and thirty thousand dollars shall be used for the purpose of pumping pond water out of Prickett's Pond and disposing of the pumped waters into the MCUA system.

This figure shall include engineering and other professional fees associated with the pumping and disposal, but shall not include attorney's fees;

(b) The pumping of pond water out of Prickett's Pond shall be accomplished by the same contractor, engineer, or consultant retained by Perth Amboy for the purpose of dredging the sediments from Prickett's Pond as more fully described in paragraph "6" above;

WEINSTEIN, SANDLER,
BROCHIN, KOHL,
FISHER & BOYLAN
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COUNSELLORS AT LAW
1 LIVINGSTON AVENUE
LSELAND, N. J. 07068

(c) The pumping of pond water from Prickett's Pond shall be coordinated with and conducted in a manner consistent with all other remedial measures ordered in paragraphs "1", "2", "3", and "6" in this Order; in addition, the order of proceeding with respect to the remedial measures herein directed shall be in the discretion of the Department.

8. There is awarded to Perth Amboy and against Madison and CPS damages in the amount of \$100,000 for the loss of four years of the beneficial use of Perth Amboy's property located within the affected area of Prickett's Brook watershed;

(a) The award shall include any and all taxes due and payable by Perth Amboy on the affected property;

(b) CPS and Madison shall be jointly and severally liable for the award under this paragraph with the right of contribution to each.

9. Perth Amboy's other claims for punitive damages and for other money damages are denied; provided however that the award of damages to Perth Amboy presumes that the measures ordered by this Court for restoration of Prickett's Brook watershed within four years' will succeed and is without prejudice to any future claim for damages if these measures fail or if, before four years time, the water needs of Perth Amboy exceed the capacity of the presently operating wells in the Tennants Pond area.

10. The award of monies to the plaintiffs as listed in paragraphs "1", "2", "3", "6", and "7" of this Order include an amount representing 10% inflation for the period between the date of the Dames & Moore Report (October 1980) and the date of the trial (June, 1981).

WEINSTEIN, SANDLER,
BROCHIN, KOHL,
FISHER & BOYLAN
ATTORNEYS AT LAW
150 LIVINGSTON AVENUE
JERSEY CITY, N. J. 07308

11. Within 30 days of the execution of this Order, Madison must completely remove the piles of exposed zinc, lead, and cadmium presently stored in an unprotected manner on its industrial premises or provide, in a manner approved by the Department for the enclosure and covering of these materials within a shed or other structure.

12. The motion of the Department on July 31, 1981, to modify in accordance with paragraphs "1", "6", and "7" of its motion the findings and conclusions of the Court concerning liability and the apportionment of monies allocated for the implementation of the ordered remedial measures is denied.

13. The Department's motion on July 31, 1981, to impose joint and several liability on the defendants for the cost of implementing the remedial measure set forth in this Order is denied; the defendants shall each be liable only for the obligations, and for no more than the amounts, expressly imposed upon it by this Order and Judgment.

14. The plaintiffs shall be granted access to the industrial sites of the defendants on reasonable notice, at reasonable times, and in a reasonable manner for the purpose of implementing the remedial measures described above and for supervising the implementation of these measures and the plaintiffs and their agents and contractors, subject to the same requirements of reasonableness, shall be permitted to sample and extract waters from all monitoring wells located on the industrial sites of the defendants

including those wells installed by the Department and by the defendants.

15. A reasonable fee for services heretofore rendered by Dames & Moore as the court expert, to the extent that it has not already been paid by the defendants, may be included in court costs and taxed to the defendants in the usual manner, with notice to the defendants and an opportunity to contest the reasonableness of the fee.

16. Jurisdiction of this matter is hereby retained by the Court and any party may apply upon due notice in connection with the enforcement thereof.

DOF 17. Defendants CPS and Madison and plaintiff Perth Amboy having advised the Court that each of them intends to appeal from this Final Order and Judgment, and a stay of the judgment pending appeal having been requested, the application for such a stay pending appeal is hereby

David D. Furman, J.S.C.

David D. Furman, J.S.C.

EVSTEIN, SANDLER,
BROCHIN, KOHL,
TSU & BOYLAN
FEDERAL CORPORATION
CONSULTANTS AT LAW
LIVINGSTON AVENUE
SELANO, N. J. 07068

A-1127-1276-8173

Order Denying C.P.S.' Motion to Remand
based upon "new evidence" dated
March 11, 1982

ORDER ON
MOTIONS/PETITIONS

SUPERIOR COURT OF NEW JERSEY
APPELLATE DIVISION
DOCKET NO. A-1127-81T3/A-1276-81T3
MOTION NO. M-2144-81
BEFORE PART E

CITY OF PERTH AMBOY

VS.

MADISON INDUSTRIES, INC., ET AL

FILED
APPELLATE DIVISION

JUDGES:

BISCHOFF

MAR 12 1982

REC'D.
APPELLATE DIVISION

MAR 12 1982

ES
Elizabeth McLaughlin
Clerk

MOVING PAPERS FILED	FEBRUARY 9, 1982
ANSWERING PAPERS FILED	FEBRUARY 23 & MARCH 4, 1982
DATE SUBMITTED TO COURT	MARCH 9, 1982
DATE ARGUED	
DATE DECIDED	MARCH 11, 1982

ORDER

THIS MATTER HAVING BEEN DULY PRESENTED TO THE COURT, IT IS

HEREBY ORDERED AS FOLLOWS:

MOTION/~~RENEWAL~~ FOR TEMPORARY
REMAND AND FOR FURTHER RELIEF

GRANTED DENIED OTHER

	X	
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SUPPLEMENTAL:

I hereby certify that the foregoing
is a true copy of the original on file
in my office.

Elizabeth McLaughlin
Clerk

FOR THE COURT:

William G. Bischoff
WILLIAM G. BISCHOFF P.J.M.D.

WITNESS, THE HONORABLE
JUDGE OF PART 2, SUPERIOR COURT OF NEW JERSEY, APPELLATE DIVISION,
THIS 11th DAY OF MARCH 1982.

WILLIAM G. BISCHOFF, PRESIDING

-57a-

Elizabeth McLaughlin
CLERK OF THE APPELLATE DIVISION

11c T eb

A-127, 1276-81T3

ORDER ON
MOTIONS/PETITIONS

SUPERIOR COURT OF NEW JERSEY
APPELLATE DIVISION
DOCKET NO. A-127-81T3/A-1276-81T3
MOTION NO. M-3643-81
BEFORE PART H

CITY OF PERTH AMBOY

VS.

MADISON INDUSTRIES, INC., ET AL

FILED
APPELLATE DIVISION

JUDGES: BISCHOFF
MICHELS
MILMED

JUN 24 1982

ND
Elyse M. Laughlin
Clerk

REC'D.
APPELLATE DIVISION

JUN 24 1982

Elyse M. Laughlin
Clerk 20

MOVING PAPERS FILED	MAY 25, 1982
ANSWERING PAPERS FILED	JUNE 14, 1982 (2)
DATE SUBMITTED TO COURT	JUNE 21, 1982
DATE ARGUED	
DATE DECIDED	JUNE 22, 1982

ORDER

THIS MATTER HAVING BEEN DULY PRESENTED TO THE COURT, IT IS

HEREBY ORDERED AS FOLLOWS:

MOTION/~~PETITION~~ FOR LEAVE TO
SUPPLEMENT THE RECORD

GRANTED	DENIED	OTHER
	X	

SUPPLEMENTAL:

I hereby certify that the foregoing
is a true copy of the original on file
in my office.

Elyse M. Laughlin

Clerk

FOR THE COURT:

William G. Bischoff
WILLIAM G. BISCHOFF P.J.A.D.

WITNESS, THE HONORABLE
JUDGE OF PART H, SUPERIOR COURT OF NEW JERSEY, APPELLATE DIVISION,
THIS 22nd DAY OF JUNE 19 82.

Elyse M. Laughlin

SUPERIOR COURT OF NEW JERSEY
APPELLATE DIVISION
A-1127-81T3
A-1276-81T3
(Consolidated)

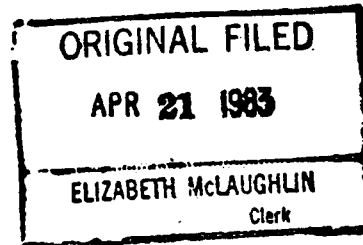
CITY OF PERTH AMBOY, a
municipal corporation,

Plaintiff-Respondent,
Cross-Appellant,

v.

MADISON INDUSTRIES, INC.,
et al.,

Defendants-Appellants,
Cross-Respondents.



NEW JERSEY DEPARTMENT OF
ENVIRONMENTAL PROTECTION,

Plaintiff-Respondent,
Cross-Appellant,

v.

CHEMICAL & POLLUTION SCIENCES,
INC., et al.,

Defendants-Appellants,
Cross-Respondents.

Argued February 28, 1983. Decided APR 21 1983

Before Judges Bischoff, J. H. Coleman and
Gaulkin.

On appeal from Superior Court of New Jersey,
Chancery Division, Middlesex County.

William J. Bigham argued the cause for Madison Industries, Inc., appellant, cross-respondent (Sterns, Herbert & Weinroth, attorneys; Mr. Bigham, of counsel; Mr. Bigham and Vincent J. Paluzzi, on the brief).

Michael L. Rodburg argued the cause for appellant, cross-respondent Chemical & Pollution Sciences, Inc. (Lowenstein, Sandler, Brochin, Kohl, Fisher & Boylan, attorneys; Murry D. Brochin, of counsel; Mr. Brochin, Michael L. Rodburg and Ms. Wertheim, on the brief).

Albert W. Seaman argued the cause for City of Perth Amboy, respondent, cross-appellant.

Steven R. Gray, Deputy Attorney General, argued the cause for New Jersey Department of Environmental Protection, respondent, cross-appellant (Irwin S. Kimmelman, Attorney General of New Jersey, attorney; Deborah T. Poritz, Deputy Attorney General, of counsel; Mr. Gray, on the brief).

PER CURIAM

These appeals and cross appeals are from the final order and judgment entered in these consolidated actions in favor of plaintiffs, City of Perth Amboy and the New Jersey Department of Environmental Protection (DEP), against defendants, Chemical & Pollution Sciences, Inc., (CPS), and Madison Industries, Inc., (Madison). The trial judge found that organic chemical emissions from CPS and heavy metal emissions from Madison entered the groundwater and the waters of neighboring

Prickett's Brook resulting in contamination of an adjacent well field owned by the City of Perth Amboy. Statutory authority for a specific remedy to this pollution, created by the Spill Compensation and Control Act, N. J. S. A. 58:10-23.1(g) (c), and the Water Pollution Control Act, N. J. S. A. 58:10A-10c(3), was invoked by the trial court to compel contribution by both industrial defendants for the cost of DEP's recommended program for restoration of Prickett's Brook watershed.

The remedy ordered by the court provided for:

- (1) construction and operation of a slurry cutoff wall three to five feet thick of an impermeable substance surrounding the two industries at their boundaries to a depth of approximately 70 feet and anchored in the South Amboy fire clay layer underlying the aquifer;
- (2) installation of four maintenance wells within the slurry cutoff wall, four decontamination pump wells outside the slurry cutoff wall and monitoring wells to determine contamination levels;
- (3) diversion of Prickett's Brook to a new channel to the south and east bypassing the two industries;
- (4) dredging, pumping and disposal of contaminated sediments of Prickett's Pond.

The trial court ordered that the contaminants which are to be pumped from the area may be discharged into a Middlesex County Utilities Authority interceptor through a constructed pipeline. Dredged metal contaminants are to be pretreated if necessary in a plant to be constructed at Madison's expense.

The cost of the slurry cutoff wall is to be borne by the defendants in proportion to the area enclosed by the slurry cutoff wall within their respective industrial sites. The cost of the construction and operation of the wells and the diversion of Prickett's Brook is to be shared equally by both defendants. The cost of heavy metal removal and sludge dewatering is to be borne by Madison. The cost of pumping pond water out of Prickett's Pond and disposing of the pumped waters into the Middlesex County Utilities Authority system is assessed against CPS. The total cost of the corrective measures is 5.2 million dollars. Each defendant is held to be only severally liable for its share of the total costs for the corrective measures. In addition, Madison and CPS are held jointly and severally liable to Perth Amboy for damages in the amount of \$100,000 for the loss of use of its watershed during the four year projected duration of the cleanup program.

In these appeals defendants and the City of Perth Amboy question the propriety of the remedial measures claiming a lack of credible evidence to support the efficacy, necessity and fairness of the ordered cleanup and removal methods. We are persuaded that such uncertainty as exists regarding the ordered use of these particular methods does not warrant a new trial as to remedy. The proofs demonstrate extensive toxic pollution of the Perth Amboy watershed directly attributable to defendants' activities. Liability for the contamination is not contested in these appeals. We recognize, as did the trial judge, that the experimental nature of the possible remedial methods available under current technology precludes an absolute guarantee of success. Nevertheless, reasonable success with the ordered measures is indicated by the testimony of the court appointed expert. This reasonable probability, considered with the dangers to public health and safety inherent in an alternative plan such as the abandonment of the watershed, necessitates an attempt at cleanup. We find sufficient credible evidence in the record to support the findings and conclusions of the trial court. Rova Farms Resort v. Investors Ins. Co., 65 N. J. 474, 484 (1974).

In its cross-appeal, the City of Perth Amboy contends that the award of \$100,000 in damages is grossly inadequate. This figure represents the loss of the beneficial use of Perth Amboy's property located within the affected area of Prickett's Brook watershed as a water resource for the four year period of the cleanup program. At trial, the city proposed to abandon the watershed and sought damages for the permanent loss of its property and for loss of the water itself.

We agree with the trial court's determination that the city's plan to abandon the use of the watershed was not as responsive to the public interest as the DEP's plan to restore and purify this water source. The DEP proposal is intended to safeguard the future water supply of the city and other downstream users. The city's claim for damages for loss of the water itself was denied because the city's water needs were being met by the suction and pump wells of another city watershed. The trial court's assessment of \$100,000 damages presumes that the remedial measures ordered will succeed within four years and is without prejudice to any future claim for damages if these measures fail

or if, before four years time, the water needs of the city exceed the capacity of the city's presently operating wells. We affirm the damage award to the City of Perth Amboy. Since the court correctly wanted to see if the ordered remedies would work, it did not intend for the monetary aspect to be final. The court used its equitable power to fashion remedies which include the present payment of money, installation of cleanup procedures and future damages to the city if the cleanup measures do not work. This is highly desirable and we, therefore, affirm that aspect of the judgment.

In its cross-appeal, DEP alleges two grounds for error in the trial court's decision. First, it is claimed that joint and several liability should have been assessed against CPS and Madison. Second, the liability of the defendants for the costs of abating their pollution should not have been limited to a specific figure.

The trial court's division of costs between defendants reflects the court's apparent concern with the fact that the contamination by Madison and CPS

were distinct, one being of heavy metals and the other of organic compounds. Under common law tort principles, damages for harm are to be apportioned among two or more causes where there are distinct harms, or there is a reasonable basis for determining the contribution of each cause to a single harm. Hill v. Macomber, 103 N. J. Super. 127 (App. Div. 1968); Prosser, Law of Torts (4 ed. 1971), §52 at 313.

As a practical matter, however, we find that the harm caused in the present case is indivisible in that the pond would have been contaminated as a water source from either of defendant's actions and the pond cannot be decontaminated unless both defendants fulfill their obligations to reimburse DEP for the costs of the remedial measures ordered by the court. Without an assessment of joint and several liability, either defendant's failure to meet the financial obligation imposed by the judgment would leave DEP in a position where it has insufficient funds from defendants to abate the contamination. The efficacy of the remedial measures ordered by the court, such as the construction of a slurry wall and rerouting of the brook, depends on completion.

Under both common law principles and relevant statutory law, the public need not bear such a burden as against a responsible party. See Landers v. East Texas Salt Water Disposal Co., 248 S.W. 2d 731 (Tex. 1952); Environmental Protect. Dep't. v. Ventron Corp., 182 N. J. Super. 210 (App. Div. 1981), certif. granted ___ N. J. ___ (1982). Moreover, the Spill Compensation and Control Act, N. J. S. A. 58:10-23 11g(c), requires that any person who has discharged a hazardous substance shall be strictly liable, jointly and severally, without regard to fault, for all cleanup and removal costs. Accordingly, we impose joint and several liability for payment of all costs to DEP for all remedies ordered by the court which are to be implemented by DEP. The proportionate allocation approach used by the court to assess the costs of the remedies between defendants was both reasonable and equitable and should be followed amongst the defendants.

DEP's second contention that the court improperly limited defendants' liability to 5.2 million dollars to remedy the contamination is most persuasive. That sum may prove to be grossly inadequate to implement the

ordered remedies. Under both the Spill Compensation and Control Act, N. J. S. A. 58:10-23.11g(c), and the Water Pollution Control Act, N. J. S. A. 58:10A-10c(3), the court is empowered to order that all costs to abate water pollution be paid by those adjudged liable for violating the law. These are specially created statutory remedies and are not, therefore, subject to common law requirements that plaintiff be limited to those specific present and prospective damages which he can prove at the time of trial. Rather, the intent of the statute is to charge those found to be responsible for pollution with the actual costs of cleanup. The implementation of this statute necessarily requires that unforeseen expenses and contingencies be considered. An accurate assessment of the prospective cost of the cleanup program is not possible considering the unknowns to be encountered in the course of employing the untried, innovative technology required in toxic waste removal plans. In the present case, the exact placement depth of the slurry cutoff wall has not yet been determined pending final investigation of the exact depth of the South Amboy fire clay layer at relevant points underlying the aquifer. Nor is it certain whether a treatment

plant for metal contaminants will have to be built. These and other final decisions concerning exact methods and specifications await further study and could significantly impact upon the court's cost estimates.

In light of these uncertainties, it is quite possible that the 5.2 million dollars ordered by the court will not accurately reflect the eventual costs of implementation. Therefore, defendants are hereby obligated to pay all cleanup and removal costs actually incurred by DEP in implementing the remedies ordered by the court and are not limited to the amounts expressly imposed by the trial court's order and judgment.

Our reliance on statutory authority to require defendants to pay the costs of certain remedies does not negate our concern for fairness to defendants. The reasonableness of the costs imposed upon defendants, however, is adequately safeguarded by the provision of the trial court's judgment which provides that implementation of the remedial measures ordered "shall be accomplished in accordance with specifications to be developed by the Department [DEP] or by a contractor selected by the Department in accordance with any applicable State bidding laws.

The specifications shall be submitted to the defendants and Perth Amboy before becoming final and shall be subject to approval by the Court." This provision allows the parties to have continued access to the Chancery Division to settle the reasonableness and necessity of any of the specifications or costs to be incurred. It should be remembered that lengthy delays will probably increase the ultimate costs and might also compel the court to consider some form of security to insure payment by defendants.

Finally, defendants contend that the trial court erroneously required them to pay the fees of the court appointed expert. This contention is unpersuasive. In a complex case such as this one, it was quite appropriate for the court to have the benefit of a neutral expert. The power of the court to appoint experts to assist the court and to assess the costs against any of the parties lies within the discretion of the Chancery Division. Azalone v. Azalone Brothers, Inc., 185 N. J. Super. 481, 489 (App. Div. 1982); see 12 A. L. R. 375 (1957), "Judicial Authority to Call Expert Witnesses." Here, the exercise of that power does not represent an abuse of discretion. The amount and reasonableness of the fees awarded Lames & Moore and whether they are

entitled to prejudgment interest and counsel fees to collect their expert fees must still be resolved in the appeal and cross appeal filed under Docket No. A-3550-82T3. Since that appeal was only filed on April 5, 1983, it is not ready for disposition.

In summary, we affirm the provisions of the remedial plan, the damage award to Perth Amboy, and the requirement that defendants pay the court appointed expert's fees. We modify the judgment to impose joint and several liability against both defendants for the actual costs of cleanup and removal of the organic and metal contamination for which they have been found liable. This matter is remanded to the Chancery Division to implement its judgment as modified by this opinion. We do not retain jurisdiction.

I hereby certify that the foregoing
is a true copy of the original on file
in my office.

Elizabeth W. Langlin

Clerk

June 14, 1983

IRWIN I. KIMMELMAN
 Attorney General of New Jersey
 Attorney for Plaintiff, New
 Jersey Department of
 Environmental Protection
 Richard J. Hughes Justice Complex
 CN112
 Trenton, New Jersey 08625

BY: STEVEN R. GRAY
 Deputy Attorney General
 (609) 292-1501

SUPERIOR COURT OF NEW JERSEY

MIDDLESEX COUNTY
 DOCKET NO. C-4474-76
 L-28115-76
 (Consolidated)
 J-3744-81

CITY OF PERTH AMBOY, A Municipal
 Corporation,

Plaintiff,

v.

MADISON INDUSTRIES, INC.,
 et al.,

Defendant,

Civil Action

FINAL ORDER AND JUDGMENT AMENDED
 TO CONFORM WITH THE DECISION OF
 APPELLATE DIVISION

STATE OF NEW JERSEY, DEPARTMENT
 OF ENVIRONMENTAL PROTECTION,

Plaintiff,

v.

CHEMICAL & POLLUTION SCIENCES, INC.,
 et al.,

Defendant.

This action was brought on for trial before the court
 sitting without a jury, David D. Furman, J.S.C., F , commence-

State of New Jersey, Department of Environmental Protection ("Department") by James R. Zazzali, Attorney General of New Jersey, Deputy Attorneys General Steven R. Gray and Rebecca Fields, appearing, and the City of Perth Amboy ("Perth Amboy") by Albert Seaman, Esq. and George Boyd, Esq., on the claims set forth in the Department's Amended Verified Complaint filed on November 3, 1978, and Perth Amboy's Complaint filed March 16, 1977, in the presence of defendants, CPS Chemical Co., by Lowenstein, Sandler, Brochin, Kohl, Fisher & Boylan, A Professional Corporation, (Murry Brochin, Esq. and Michael L. Rodburg, Esq. appearing), and Madison Industries, Inc., by Lunch, Mannion, Martin, Benitz & Lynch (John A. Lynch, Jr., Esq. appearing), and the Court having considered the evidence and the arguments of the attorneys for the respective parties; and the Court having decided that judgment should be entered in favor of the plaintiffs, Department and Perth Amboy, and against the defendants, CPS and Madison, on the issue of defendants' liability for the pollution of surface and groundwaters and soils in the Prickett's Brook Watershed in the vicinity of defendants' industrial premises in violation of State statutes N.J.S.A. 58:10A-1 et seq. and N.J.S.A. 58:10-23.11 et seq.; and the Court having considered the Department's request for specific remedial relief directing the defendants to pay for the containment and removal of the contaminants from the surface and groundwaters and soils in Prickett's Brook Watershed as well as the claim by Perth Amboy for monetary damages; and the Appellate Division having affirmed in part and modified in part the October 16, 1981 judgment of the trial court; therefore,

IT IS on this ^{14th} day of ^{June} ~~May~~, 1983,

ORDERED that judgment be and hereby is entered in favor of the plaintiffs, Department and Perth Amboy, and against CPS and Madison, based upon the findings of fact and conclusions of law set forth in the oral opinion of July 8, 1981, in the written opinion of the Court as dated July 31, 1981, and in the written opinion of the Appellate Division as dated April 21, 1983, as follows:

1. There is awarded to the Department a sum of \$1,820,500 to be used by the Department for the purposes outlined below in this paragraph and to be apportioned between the defendants as outlined in this paragraph:

(a) There shall be constructed and installed a slurry cutoff wall of bentonite tied into a continuous natural clay layer in the location described in the court's expert's report (Exhibit PS-1, Appendix E, Page E-12) as modified by the Department in Exhibit PS-9, (copies of which are annexed hereto).

(b) The cost for the installation and operation of the slurry wall shall be apportioned between the defendants as follows:

(i) The cost of the construction and installation of the slurry wall is to be borne by the industrial defendants CPS and Madison in proportion to the area enclosed by the slurry cutoff wall within their respective industrial sites (i.e., Block 6303, Lots 10 and 11 respectively as designated on the tax map of Old Bridge Township) according to a fraction, the numerator of which is the area of the enclosed premises of CPS or Madison, as the case may be, plus one half of the enclosed land area located within the slurry wall and outside both industrial premises, and the denominator of which is the total land area enclosed within the slurry wall.

2. There is awarded to the Department a sum of \$1,700,000 to be used by the Department for the purposes outlined below in this

paragraph and to be apportioned between the defendants as outlined below:

(a) There shall be installed within the area contained in the slurry wall maintenance wells not to exceed four in number;

(b) There shall be installed outside of the area contained by said slurry wall decontamination wells not to exceed four in number (see generally, Exhibit PS-1, Appendix E, Page E-13 to 16);

(c) There shall be pumping from the above referenced maintenance and decontamination wells at a rate of approximately one million gallons per day for a period of approximately four years which water will be discharged to the Old Bridge Township Sewage Authority's ("OBTSA") sewer line and then into the Middlesex County Utility Authority's ("MCUA") sewage treatment plant without pretreatment with the exception of such sludge dewatering and heavy metal removal as may be required by the MCUA or by the Department for discharges in the normal course to the MCUA system (see generally, Exhibit PS-1, Appendix E, Page E-13 to 16);

(d) Should pretreatment for the removal of metal contaminants from the water pumped as described in paragraph "c" above, be required, there shall be constructed and installed a plant for the treatment and removal of heavy metals (Exhibit PS-1, Appendix E, Page E-18). This treatment plant shall be operated for a period of approximately four years (Exhibit PS-1, Appendix E, Page E-19);

(e) There shall be constructed and installed a "force main" or pipeline to convey pumped waters to the MCUA system (Exhibit PS-1, Appendix E, Page E-20). This force main or pipeline shall be operated for a period of approximately four years (Appendix B, estimate SW700-2);

(f) There shall be constructed and installed monitoring wells to monitor the progress and efficacy of decontamination; these wells may be sampled and the samples analyzed;

(g) The cost for the remedial measures outlined in this paragraph "2," \$1,700,000, shall be divided equally between the industrial defendants, CPS and Madison, except that the cost of any heavy metal removal and sludge dewatering as may be required by the MCUA or by the Department (i.e., the cost of constructing and operating a plant for the removal of heavy metals) shall be borne by Madison.

3. There is awarded to the Department a sum of \$583,000 to be used by the Department for the purposes outlined below:

(a) Prickett's Brook shall be rerouted to the south of the industrial sites of CPS and Madison (Block 6303, Lots 10 and 11 respectively) in accordance with the location depicted in Figure 44 in Exhibit PS-1 or in such a manner that it completely bypasses the industrial activities on the sites of CPS and Madison;

(b) The rerouting shall be accomplished in accordance with specifications to be developed by the Department or by a contractor selected by the State in accordance with any applicable State bidding laws;

(c) The cost of rerouting Prickett's Brook shall be borne equally by the defendants.

4. The implementation of the remedial measures outlined in paragraphs "1," "2," and "3" of this Order shall be accomplished in accordance with specifications to be developed by the Department or by a contractor selected by the Department in accordance with any applicable State bidding laws. The specifications shall be submitted to the defendants and Perth Amboy before becoming final and shall be subject to approval by the Court. Any issue as to the reasonableness or necessity of any specifications or costs to be incurred may be submitted to the Court.

5. All of the sums which the defendants are required to pay hereunder except that required by paragraph "8" shall be paid in

installments in the nature of progress payments within 20 days after presentation of (a) an invoice from the contractor who is doing the work for which the payment is required and (b) a certificate from the State that the particular work for which payment is to be made has been completed to its satisfaction. The award of \$100,000 to Perth Amboy set forth in paragraph "8" shall be enforceable at the time and in the manner applicable to a judgment at law.

6. There is awarded to Perth Amboy and against Madison a sum of \$585,000 to be used by Perth Amboy for the purposes outlined below in this paragraph:

(a) Three hundred and thirty thousand dollars (\$330,000) of the award to Perth Amboy under this paragraph shall be used for the purpose of mechanically and hydraulically dredging the sediments of Prickett's Brook (Exhibit PS-1, Appendix E, Page E-1 and 2);

(b) Two hundred and fifty-five thousand dollars (\$255,000) of the award to Perth Amboy under this paragraph shall be used for the purpose of disposing of the dredged sediments from Prickett's Pond and Prickett's Brook on the site of Perth Amboy's Prickett's Brook watershed property in a manner approved by and acceptable to the Department. This figure shall include the cost of lining and covering the sediments in a manner acceptable to the Department. This figure shall also include engineering and professional fees incurred in connection with the onsite disposal operation, but shall not include attorney's fees.

7. There is awarded to Perth Amboy and against CPS a sum of \$430,000 which sum of money shall be used by Perth Amboy for the purposes outlined below in this paragraph:

(a) The award of the sum of four hundred and thirty thousand dollars shall be used for the purpose of pumping pond water out

of Prickett's Pond and disposing of the pumped waters into the MCUA system.

This figure shall include engineering and other professional fees associated with the pumping and disposal, but shall not include attorney's fees;

(b) The pumping of pond water out of Prickett's Pond shall be accomplished by the same contractor, engineer, or consultant retained by Perth Amboy for the purpose of dredging the sediments from Prickett's Pond as more fully described in paragraph "6" above;

(c) The pumping of pond water from Prickett's Pond shall be coordinated with and conducted in a manner consistent with all other remedial measures ordered in paragraphs "1," "2," "3," and "6" in this Order; in addition, the order of proceeding with respect to the remedial measures herein directed shall be in the discretion of the Department.

8. There is awarded to Perth Amboy and against Madison and CPS damages in the amount of \$100,000 for the loss of four years of the beneficial use of Perth Amboy's property located within the affected area of Prickett's Brook watershed;

(a) The award shall include any and all taxes due and payable by Perth Amboy on the affected property;

(b) CPS and Madison shall be jointly and severally liable for the award under this paragraph with the right of contribution to each.

9. Perth Amboy's other claims for punitive damages and for other money damages are denied; provided however that the award of damages to Perth Amboy presumes that the measures ordered by this Court for restoration of Prickett's Brook watershed within four years will succeed and is without prejudice to any future claim for damages

if these measures fail or if, before four years time, the water needs of Perth Amboy exceed the capacity of the presently operating wells in the Tennants Pond area.

10. The award of monies to the plaintiffs as listed in paragraphs "1," "2," "3," "6," and "7" of this Order include an amount representing 10% inflation for the period between the date of the Dames & Moore Report (October 1980) and the date of the trial (June, 1981).

11. Within 90 days of the execution of this Order, Madison must completely remove the piles of exposed zinc, lead and cadmium presently stored in an unprotected manner on its industrial premises or provide, in a manner approved by the Department for the enclosure and covering of these materials within a shed or other structure.

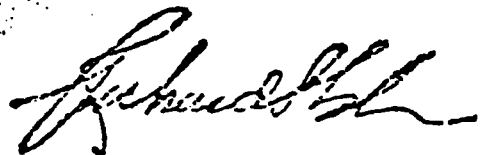
12. The Court's determination to deny paragraphs "1," "6," and "7" of the Department's July 31, 1981 motion is modified to the extent required by the Appellate Division's determination of joint and several liability and of modified limits in the dollar amounts of the defendants' liability. Notwithstanding the limits on the amounts set forth in paragraphs "1," "2," "3," "6," and "7" hereof, the defendants are hereby obligated to pay all cleanup and removal costs actually incurred by the Department in accordance with paragraphs "4" and "5" hereof, in implementing the remedies ordered by paragraphs "1," "2," "3," "6," and "7" hereof, such costs to be allocated as between the defendants as set forth therein.

13. The defendants shall be jointly and severally liable for all costs of implementing all remedial measures set forth in this Order.

14. The plaintiffs shall be granted access to the industrial sites of the defendants on reasonable notice, at reasonable times, and in a reasonable manner for the purpose of implementing the remedial measures described above and for supervising the implementation of these measures and the plaintiffs and their agents and contractors, subject to the same requirements of reasonableness, shall be permitted to sample and extract waters from all monitoring wells located on the industrial sites of the defendants including those wells installed by the Department and by the defendants.

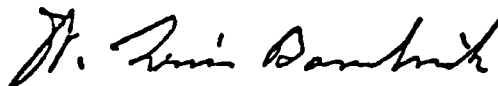
15. A reasonable fee for services heretofore rendered by Dames & Moore as the court expert, to the extent that it has not already been paid by the defendants, may be included in court costs and taxed to the defendants in the usual manner, with notice to the defendants and an opportunity to contest the reasonableness of the fee.

16. Jurisdiction of this matter is hereby retained by the Court and any party may apply upon due notice in connection with the enforcement thereof.



RICHARD S. COHEN, J.S.C.

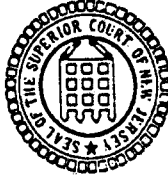
I hereby certify that the foregoing
is a true copy of the original on file
in my office.



Clerk

SUPERIOR COURT OF NEW JERSEY
CHANCERY DIVISION
NOT FOR PUBLICATION WITHOUT THE APPROVAL OF THE
COMMITTEE ON OPINIONS

CHAMBERS OF
JOHN E. KEEFE
PRESIDING JUDGE



MIDDLESEX COUNTY COURT HOUSE
NEW BRUNSWICK, NEW JERSEY 08903

December 3, 1985

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Re: City of Perth Amboy v. Madison Industries, Inc.
Docket No. C-4474-76; L-28114-76

Dear Counsel:

This matter is before the court on the Township of Old Bridge's motion to intervene and the New Jersey Department of Environmental Protection's motion to vacate judgment. The court has considered the papers filed in this matter as well as the arguments of counsel on October 11, 1985.

The motion to intervene made by the Township of Old Bridge is denied. The township has been fully aware of DEP and the City of Perth Amboy's efforts to cleanup the pollution caused by Madison Industries and CPS at least from the inception of the now consolidated suit in 1976. The matter was the subject of a long trial before Judge Furman, who entered judgment in 1981. Following cross-appeals to the Appellate Division, the judgment was modified in part and remanded to the trial court. Judge Cohen entered final judgment on June 14, 1983. At no time during this period did the township move to intervene in the matter. Rather, the township seeks to intervene over two years after final judgment has been entered. Therefore, the township's motion is untimely.

Furthermore, the township's participation in the case at this point will not serve to assist the court in reaching a fair and expeditious resolution of the dispute. Rather, the township seeks a delay in the proceedings in order to hire an expert to determine the feasibility

and effectiveness of the court-ordered plan vis-a-vis that proposed by DEP. Any further delay in commencing the cleanup of the Madison and CPS site will be to the prejudice of all parties. Therefore, this court finds that the township's interests are adequately protected by the continued involvement of DEP and the City of Perth Amboy, especially in light of this court's resolution of the DEP's motion to vacate.

The judgments entered by Judge Furman and Judge Cohen ordered cleanup to proceed primarily as directed by the court's appointed expert, Dames & Moore. The remediation plan has been described by the parties to be a containment or "bathtub" plan; that is, a slurry wall would be constructed to contain the pollutants, preventing their contamination of the surrounding ground waters and Prickett's Pond. As acknowledged by the parties, this plan has not been implemented to any significant extent.

The Department of Environmental Protection has petitioned this court to vacate the June 14, 1983 judgment and implement an active cleanup plan developed by the DEP. The proposed plan is, in substantial part, that recommended by Wehran Engineering. This plan advocates the removal and treatment of the contaminated waters surrounding the CPS and Madison Industries plants.

Pursuant to R. 4:50-1(f) this court may relieve a party from judgment for "any other reason justifying relief from the operation of the judgment or order." The Supreme Court of this state has determined that the party seeking such relief must show that there are "exceptional circumstances" which warrant relief from the judgment. Bauman v. Mariano, 95 N.J. 380, 393 (1984). The DEP, CPS and Madison Industries have not demonstrated to the satisfaction of the court that the court-ordered plan set forth in Judge Cohen's judgment is unworkable; that is they have not established the necessary "exceptional circumstances."

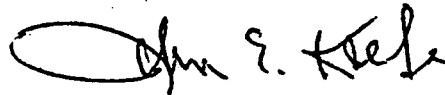
Nonetheless, the papers before the court do raise a question as to whether the court-ordered plan is the most effective remediation of the pollution. This court will not implement an environmentally unsound plan. The evaluation of the court-ordered plan prepared for the defendants by CH₂M-Hill suggests to the court that Dames & Moore may not have sufficiently tested the underlying South Amboy fire clay to determine if it will support the so-called "bathtub". Without an adequate "floor" the bathtub containment as contemplated by the court-ordered plan will not work.

In cases where there is a substantial public interest or potential harm to the general welfare, a court need not view so stringently the requirement of exceptional circumstances before vacating judgment. Manning Engineering v. Hudson County Park Commission, 74 N.J. 113 (1977). This court finds a substantial public interest in the cleanup of pollution caused by the defendants. Therefore, in order to determine

the environmental effectiveness of the court-ordered plan, specifically as commented upon by CH₂M-Hill, this court orders CPS and Madison Industries, under the supervision of DEP and the City of Perth Amboy, to perform the necessary borings to determine whether the fire clay underlying the site is sufficiently stable to make the "bathtub" theory workable.

The Appellate Division opinion in this case held that CPS and Madison are jointly and severally liable for all actual cleanup and removal costs incurred by the DEP in effectuating the cleanup. For this reason CPS and Madison are ordered to pay all costs associated with the making of the borings as required to comply with this order. Within twenty days of this decision, CPS and Madison shall supply the court, with copies to Ronald Heksch and Albert Seaman, of a proposed schedule for completing the borings.

Very truly yours,



JOHN E. KEEFE, J.S.C.

JEK:dmb

cc: Bruce Clark, Esq.

Copies sent to
Robinson
Hoffman
Lungwall
Dudas.